FOUNDED IN 1856

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

JANUARY 22, 1951

5
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2
27
51

Among the more than 200 crack passenger trains powered by General Motors Diesel locomotives are all of the Great Northern Railway streamliners. These swift, modern trains include the transcontinental Empire Builder fleet and the shorter-run International and Red River. Also used extensively by the Great Northern for other passenger, freight and switching service, General Motors locomotives have established records for efficiency and reliability.

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS • LA GRANGE, ILLINOIS
HOME OF THE DIESEL LOCOMOTIVE
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GENERAL MOTORS LOCOMOTIVES

MEMBERSHIP ROLL

UNIT TRUCK "1000" - CLUB

OVER 10,000 CAR SETS

ATLANTIC COAST LINE
BURLINGTON
GENERAL AMERICAN TRANS. CORP.
LOUISVILLE & NASHVILLE
MISSOURI PACIFIC
NEW YORK CENTRAL
PENNSYLVANIA
UNION TANK CAR CO.

5 – 10,000 CAR SETS

CHESAPEAKE & OHIO
CHICAGO & NORTHWESTERN
ERIE
GULF MOBILE & OHIO
NORFOLK & WESTERN
ROCK ISLAND

3 – 5,000 CAR SETS

*BALTIMORE & OHIO
DELAWARE & HUDSON
GREAT NORTHERN
LACKAWANNA
NORTHERN PACIFIC
PITTSBURGH & LAKE ERIE
SEABOARD AIR LINE

2 – 3,000 CAR SETS

AMERICAN REFRIGERATOR TRANSIT
ARMOUR CAR LINES
CENTRAL OF GEORGIA
FRUIT GROWERS EXPRESS
ILLINOIS CENTRAL
LEHIGH VALLEY
NASHV. CHATTANOOGA & ST. LOUIS
VIRGINIAN

1 – 2,000 CAR SETS

CANADIAN PACIFIC
*CHICAGO & EASTERN ILLINOIS
CHI. ST. PAUL, MINNEAPOLIS & OMAHA
DENVER & RIO GRANDE WESTERN
DETROIT, TOLEDO & IRONTON
*ELGIN, JOLIET & EASTERN
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*SOO LINE
SOUTHERN PACIFIC
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*UNION PACIFIC
*WABASH
*WARREN MARITIME CORP.
*WESTERN FRUIT EXPRESS

*NEW MEMBER

"1000"-Club members own a total of 217,813 Unit-equipped freight cars — more than 92% of all Unit-equipped cars now in service or on order as of January 1st 1951.

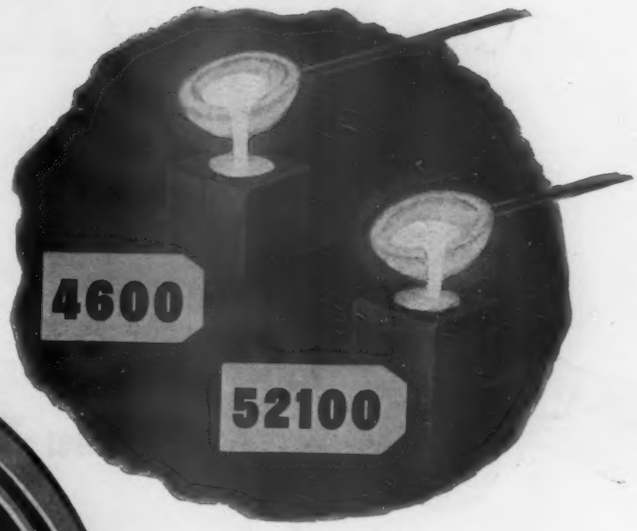
Yes!- It's the World's fastest growing Railroad Club

R SETS
OHIO
HUDSON
HERN
CIFIC
LAKE ERIE
LINE

Club

2 types of Alloy Steel will meet most bearing requirements

There are few, if any, other uses of alloy steels that demand the high degree of cleanness —both surface and internal—that is required in anti-friction bearings. In making the components of bearings, the removal of metal by grinding or polishing may show up any non-metallic inclusions and mar the brilliant surfaces. Slight deviations from specified analysis or microstructure of the steel can also cause rejection through failure to machine or heat-treat properly.



There are two types of alloy steels used for balls, rollers and races in the great majority of bearings. The 52100, high-carbon, high-chrome series with minor modifications is used widely where through-hardening is desirable. The 4600 nickel-molybdenum series in the low-carbon range is generally used where carburizing or case-hardening is required.

In producing these steels to meet the exacting standards and specifications of the bearing industry Bethlehem combines the most careful of mill practices with the highest degree of metallurgical skill. We make all grades of bearing steels as well as the entire range of AISI and special steels.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation.

BETHLEHEM ALLOY STEELS

BETHLEHEM STEEL

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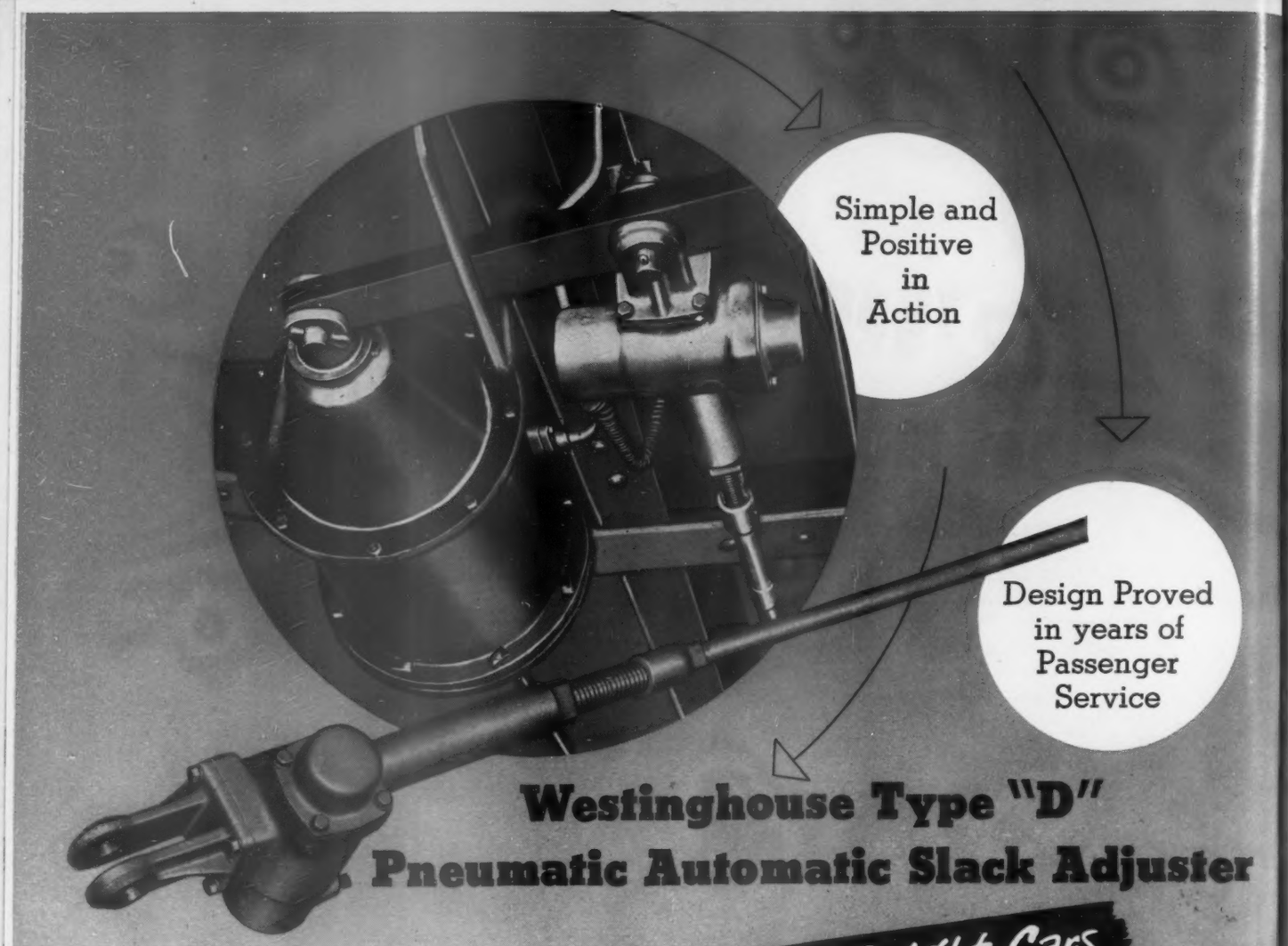
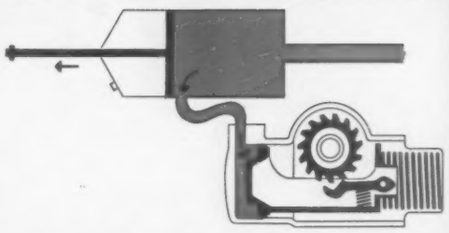
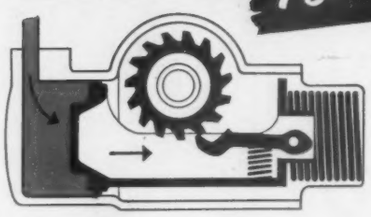


Westinghouse Type "D" Pneumatic Automatic Slack Adjuster

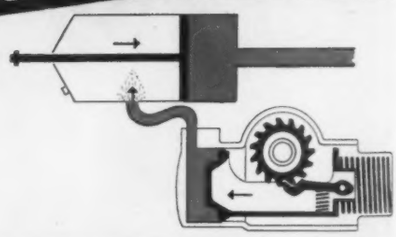
For Freight Cars



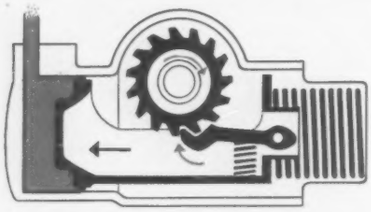
Excess Brake Cylinder Piston Travel uncovers port—admits air to slack adjuster cylinder.



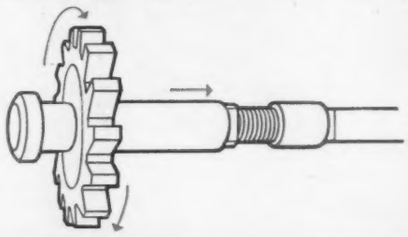
Air moves piston, and associated parts, compressing spring.



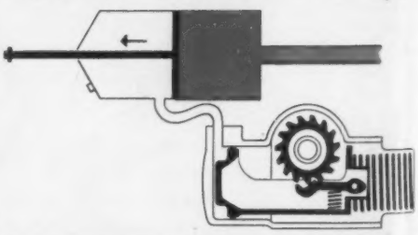
When brake is released, air in adjuster cylinder is vented, and spring returns piston.



Upon return of piston, pawl advances Ratchet Nut one tooth.



Movement of nut shortens tie-rod connection, taking up slack.



Action occurs with each brake application, maintaining piston travel at proper value.

Ask for Leaflet 2468

Westinghouse Air Brake Co.

WILMERDING, PA.

Vol. 130, No. 3 January 22, 1951

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

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Marine Engineering & Shipping Review Marine Catalog & Buyers' Directory
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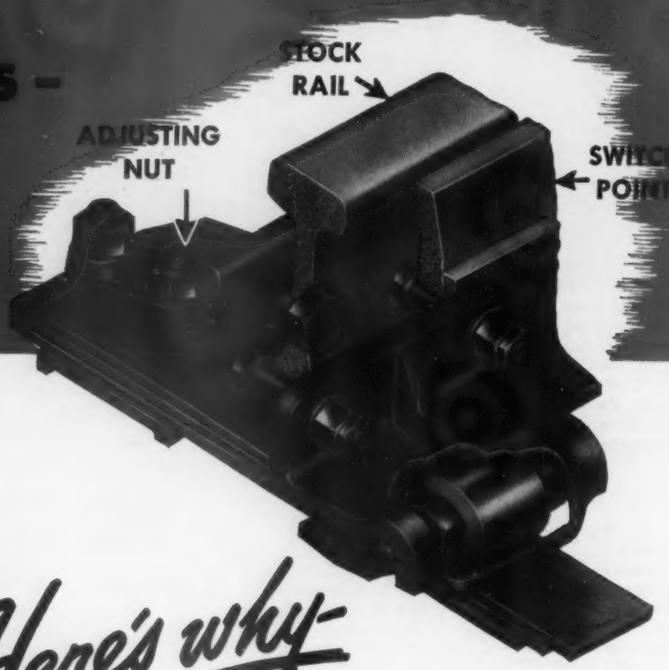
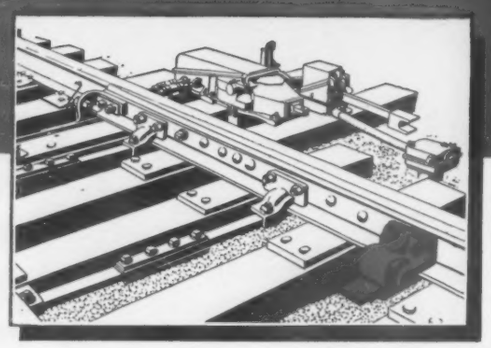
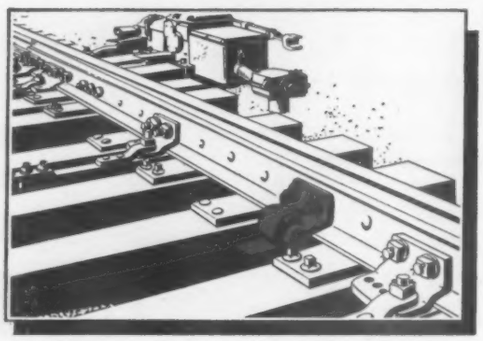
Install "UNION" Roller Bearings On Your Switch Points -

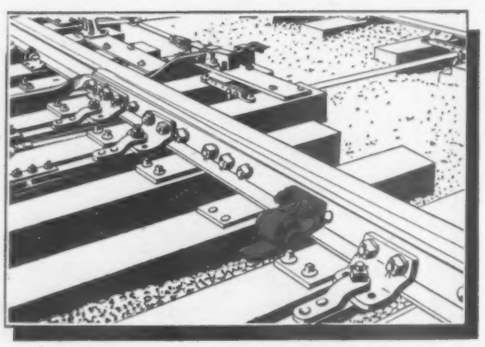




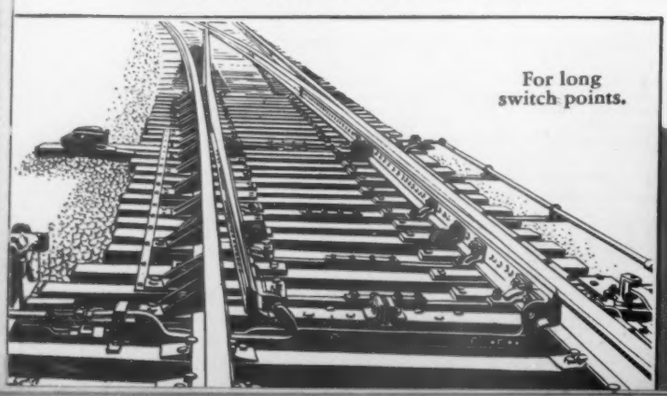
For hand-operated switches, spring switches, and spring switches equipped with mechanical facing point locks.



For power switches.



For switches in mechanical interlockings.



For long switch points.

Here's why-

1. They carry approximately 80 per cent of the weight of the switch points in transit . . . greatly reduce the power required to throw the switch.

2. Save wear on connections and operating mechanism . . . lessen maintenance time required for oiling and cleaning switches.

3. Assure easier operation of long, heavy switch points and minimize frictional interference at locations where sand or dirt collects on the switch plates.

4. Improve operation of spring switches by reducing friction when points return to normal after a trailing move.

5. Aid in restoring spring switch points equipped with Mechanical Facing Point Locks to proper relationship with stock rail—at point where lock connection is made.

"Union" Roller Bearings are attached to the stock rails and support the switch points from these rails . . . function properly despite varying tie alignment. They are mounted above the ballast—and do not interfere with tamping of ties. For full details, call or write our nearest district office.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK · CHICAGO · ST. LOUIS · SAN FRANCISCO

WEEK AT A GLANCE

RAILROADS AND DEFENSE: Everybody seems to agree on one thing, at least—that movement of freight and passengers resulting from the nation's expanded defense program will result in increases and possibly unprecedented demands for transportation in 1951 and probably in 1952 as well. What this is likely to mean to the railroads is emphasized in the feature article beginning on page 18, which includes concise and precise figures on traffic handled by rail in World Wars I and II. The author—former chief of the Army's Transportation Corps—concludes, incidentally, with the "hope that with growing public appreciation of their proper role . . . the railroads will no longer be a political football, but . . . will receive the public support so necessary to insure for us all a favorable national destiny."

MORE LUBRICATION PROGRESS: On pages 26 and 27 is another progress report on the lubrication research program of the Mechanical Division of the A.A.R. This report, the fourth of its kind, shows the oil characteristics which are most needed in subzero temperatures.

INVITATION TO DISASTER: "While the air is filled with so much controversial discussion of foreign policy, it cannot be emphasized too strongly, or by too many voices, that the nation is confronted with much more difficult and dangerous economic problems than when it began preparing for the last war." So says our leading editorial—which points out that elimination of wasteful public expenditures, more efficient utilization of plant and manpower, and investment-encouraging tax policies are all necessary to overcome those problems.

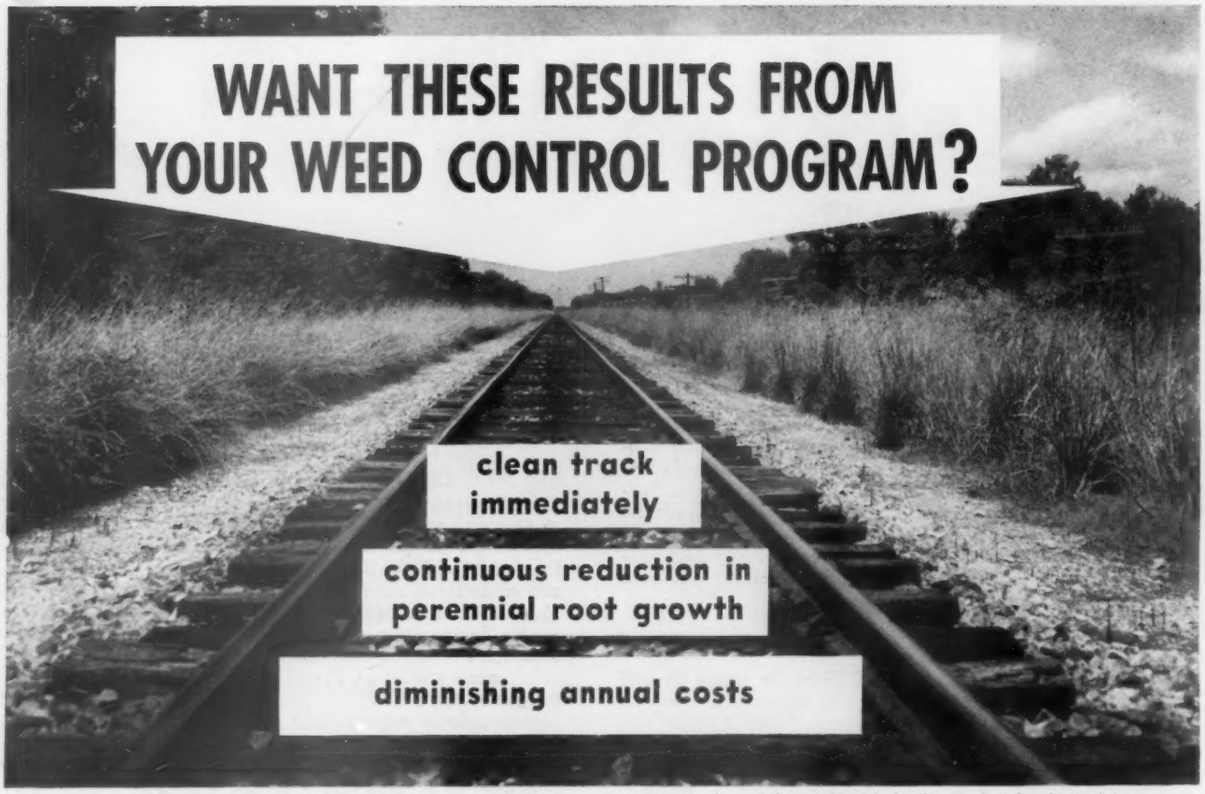
TO A DISTINGUISHED RAILROADER: In the recent retirement and subsequent death of Jacob Aronson, vice-president and general counsel of the New York Central, the railroad industry has lost the services of one of the ablest lawyers ever to represent it. The measure of its loss is indicated by the tributes from such men as Gustav Metzman, William T. Faricy, J. Carter Fort and Sidney S. Alderman, which accompany the page 28 biography of Mr. Aronson.

LEST WE FORGET: Military traffic is going to be important, all right—the railroads will carry a tremendous freight volume and probably a good passenger volume. But it's important to remember, too, that the railroads have long-term peacetime problems that won't be permanently solved by any temporary upsurge of military traffic, and that will remain or return when military traffic is gone. Patrick B. McGinnis, chairman of the Norfolk Southern, called attention to some of those problems in a recent address at New York, which is abstracted at some length on pages 14-17. He said little about subsidies—but a great deal about "exempt carriers" of various types; about the folly of permitting contract truckers to operate as retail carriers at bulk rates, while requiring railroads to operate as bulk carriers at retail rates; about the "Fourth section"; about the commodities clause; and about passenger, mail and express business. And he says, in effect, let's get together and ask Congress to make the rules of the game the same for all the teams. It will be well to remember the points that Mr. McGinnis makes, no matter how much defense business may come the railroads' way, because—and it's worth repeating—military traffic won't last forever, but problems of discrimination will, unless positive action is taken to solve them.

SIX PER CENT: The anticipated railroad petition for a general increase of six per cent in freight rates—subject to specified maximum increases of so many cents per hundredweight or per ton on certain commodities—was filed this week with the I.C.C. Our news report of the railroad action outlines the major proposals of the petition, and also the reasons for filing it at this time—principally, of course, increases in material prices and in wages since the final Ex Parte 168 rate increase became effective in 1949. Other news stories on President Truman's January 15 budget message to Congress point out that, along with vastly higher defense expenditures, he asks for more money for highways, waterways and airways, on the general ground that "subsidies are a federal responsibility." It is, perhaps, pertinent to suggest that a nation which, in time of grave national emergency, can find more money for subsidies to other forms of transportation, can also afford to pay a little more for the most vital and comprehensive of all transportation services—that provided by its railroads.

NEWS HIGHLIGHTS: I.C.C. approves issuance by Nickel Plate of 33,770 shares of new common stock, to be offered to present stockholders at $150 per share.—P.R.R. appropriates $6.5 million for improvements in Philadelphia, including eventual demolition of "Chinese Wall" and old Broad Street station.—Edward O. Boshell, utility executive, succeeds A. N. Williams as president of Westinghouse Air Brake and Union Switch & Signal.—Central of Pennsylvania to enlarge and modernize Allentown yard, at cost of $3.5 million.—December freight car deliveries total 5,700; 10,000-a-month level expected in April or May.—L. I. to carry out I.C.C. safety recommendations.—President's proposed fiscal 1952 budget includes increased allocations for highways, waterways, and airways.—C.I.O. announces plans for nationwide organizing drive among "non-ops."—"Help Wanted" signs go up in railroad shop centers.—Week's freight car orders number 3,670 units, including 1,500 for S.P., 1,000 for U.P., and 500 for each B.& A. and C.& E.I.—I.C.C. authorizes Central Vermont to acquire New London Northern.—Knudson says railroads "must get" needed steel for cars.—Pressed Steel gets big Army contract.—Electrical Section elects officers.—President signs union shop, check-off bill.—I.C.C. chairman Splawn sees big demand for transportation in 1951.—Express agency proposes upward revision of rates.—"Ops" wage case goes back to White House.

THOUGHTS ON L.C.L.: Some aspects of the competitive situation in transportation, with particular reference to what the railroads can do to overcome the effects of competition in l.c.l. business, were included in a paper presented recently at the Harvard Business School by that keen student of railroad affairs, L. K. Sillcox, executive vice-president of the New York Air Brake Company. Excerpts from his paper appear on page 29.



ABOVE: Track in gulf coast territory, after three year treatment with General Chemical herbicides. Previously infested with Johnson grass, Bermuda grass, Trumpet vine and Saw Briar, it now requires only marginal treatment to maintain clean sub-grade and top ballast.

Your Policy Decision *Today* Will Determine Your Weed Control Cost 3-5 Years From Now!

Do you want temporary top-kill . . . with no reduction in yearly costs?

or

Cumulative control with clean track . . . at higher initial cost but diminishing annual expenditures?

The choice is yours!

Modern weed control programs must provide over-all efficiency and long-term economy to justify their use. Unfortunately, with burning and most forms of chemical control, only *seasonal relief* is obtained . . . and costs remain at the same high level year after year! Such practices only result in *temporary* top kill . . . root structures are not destroyed; regrowth is rapid; seed germination is not suppressed.

A Two to Three Year Tailor-Made Program to Maintain Weed-Free Ballast

Out of its extensive background in handling individual railroad weed problems, General Chemical has developed a modern method of control which now enables a road to achieve *clean track immediately . . .* with *continuous reduction in root growth,* coupled with *diminishing costs!*

Such results are obtained by a two or three year program following a schedule especially tailored to overcome each road's particular weed problems.

Cumulative Results With Long-Range Economy!

Aimed at control of perennial *root systems,* General's scientific method assures killing off of long established perennials; continually reducing amount of regrowth year after year; eliminating heavy seed germination; and preventing outside encroachment in subgrade. With this thorough method, your track can be *maintained* in a relatively weed-free condition with minimum dosages!

While initial costs may be somewhat greater than for temporary annual relief, such a high level of continuing control is achieved that the over-all long-range costs are far less and lead to increased savings. *The end result is track which can be kept weed-free year after year with the smallest possible budget.*

GENERAL CHEMICAL WEED CONTROL

Write today for full details to:

Weed Killer Department

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

These boys don't know it but—

THEY'RE WORKING *FOR* THE RAILROADS!

The last thing in the world these sly spies *want* is to help build a strong America.

But they're doing just that in ARCI's forthcoming advertisement —seventh in the series devoted to "Fair Play for America's Railroads." Unwittingly, they'll emphasize—to 24,000,000 readers of the Saturday Evening Post, Time, and other magazines—*the basic idea that freight cars are just as vital to national defense as tanks or guns or ships or men.*

Our military authorities and defense agencies are already aware of this. That is why they have urged the production of 10,000 or more new freight cars monthly. That is why the National Production Authority is allocating enough of our scarce supplies of steel to sustain production at this level.

The railroads have taken the lead in getting the program under way. They ordered more than 150,000 new cars during 1950 alone, with many more to come.

The carbuilders, too, have gone to work. *They have contracts with more than 90% of the railroads who have cars on order.* By April, within 90 days after steel starts flowing in needed quantities, a steadily increasing stream of cars will be pouring off assembly tracks in all parts of the country.

The entire nation agrees: *This* time, we will not run the risk of a transportation break-down due to shortages of railway equipment.

Fair Play for America's Railroads

AMERICAN RAILWAY CAR INSTITUTE

Put your car floors on the right track!

STRAIGHT UP the aisle to lower maintenance costs, longer service life, eye-appealing beauty! That's the course the Chicago and North Western Railway Co. chose when it installed "Terraflex" flooring made of VINYLITE Brand Resins in its suburban cars.

Meeting the challenge of thousands of scuffing feet—often tracking cinders, gravel, rock salt and mud—month after month, this tough, resilient flooring is providing the answer to many railroads' passenger-car floor problems.

You see, resilient tile and continuous floorings made of VINYLITE Resins are unaffected by strong cleaning compounds. They are highly resistant to water, salt, greases, oils, alkalies, and most strong acids.

They resist fire, cigarette burns, scratches. Their flexibility prevents lifting due to working of car floors. They require no waxing, either for surface protection or luster. They come in a wide range of colors, clearer, brighter, more stable than ever before obtained in a resilient flooring.

You'll be well rewarded if you equip your passenger cars with flooring made of VINYLITE Resins. We'll gladly give you the complete story. Write Dept. JV-73.

Data on "Terraflex" courtesy Johns-Manville Corp., 22 East 40th Street, New York 16, N.Y.

Vinylite BRAND **RESINS**

BAKELITE DIVISION UCC

BAKELITE DIVISION, *Union Carbide and Carbon Corporation,* 30 East 42nd Street, New York 17, N. Y.

WASTEFUL PUBLIC EXPENDITURES AND SHORTENED WORKING HOURS INVITE NATIONAL DISASTER

The American economy is and can be kept the mightiest bulwark against communism in the world. It must be relied upon to provide the means of arming this nation and as the principal means of arming all noncommunist nations. But it is in great danger of being broken down by domestic economic policies (1) that overburden it and (2) that sap its strength. There are two vitally necessary means of avoiding this—(1) elimination and avoidance of nonessential expenditures by all our governments, federal, state and local; and (2) increase of production.

There is a relationship and interdependence of these two means that is recognized by few leaders in either public or private life; and no adequate effort is being made to use either of them. The greatest danger to the economy is inflation—the loss by money of its purchasing power. Excessive government expenditures cause the greatest threat of inflation, while increased production of goods for both military and civilian purposes is the main requisite for preventing or reducing inflation.

The means of defraying government expenditures must be secured by increase of government debt, by taxation or by both. Increase of the federal government debt increases the supply of money (currency and checking accounts) and, consequently, increases the demand for goods; and this increased demand, without a corresponding increase of production, inevitably forces up prices. Increases in taxes—except those levied as excises on consumers' goods—curtail capital available for private investment; and curtailment of private investment in means of production inevitably curtails production. It is a ruinous spiral, which must be circumvented to avoid disaster. Heavier taxes should be levied in a manner to encourage private investment in facilities to increase production—not to curtail or impede such investment.

Increased military outlays should be offset as far as is humanly possible by curtailment in other government expenditures. Always when reductions of federal government expenditures for nondefense purposes are advocated, the advocates are challenged to show what expenditures can be reduced. This challenge has been answered repeatedly by Senator Harry F. Byrd. Nondefense expenditures in fiscal 1948 were $17.6 billion and for fiscal 1951 were budgeted by the administration at $23.3 billion.

Senator Byrd on Government Expenditures

Senator Byrd has shown in detail how and wherein these nondefense expenditures could be reduced by $6 billion or $7 billion annually. This includes nothing for the huge waste that could be eliminated from expenditures for defense by curbing the inefficient methods of the military, and nothing for the reduction of nonessential expenditures that could be made by the state and local governments.

As regards production for both defense and civilian purposes, its volume depends on the quantity and efficient utilization of *plant* and *manpower*. The required expansion of plant, including transportation plant, cannot be accomplished without a huge increase of private investment. First, as was shown in World War II, it is the manufacturing and transportation plant *already in existence* that must be relied upon for all but an infinitesimal part of the production required for both defense and civilian purposes. Second, this plant can be

expanded enough to increase production and transportation adequately at much less cost and use of essential labor and materials than would be required for brand-new plant which would equally increase production. But the existing plant on which most dependence must be placed is owned by private capital, and only private management has the "know how" necessary to expand it both adequately and at low enough cost. Government investment in it to expand it would be made inefficiently, would interfere with private management and greatly accelerate the trend toward socialism.

How Is Capital to Be Secured?

But how is the capital for expanding it to be secured? Huge increases in income taxes will increase the difficulty of this problem for all industries, but most of all for the railways. The problem presented by the railways is vital not only to them but also to the nation—because experience during the last war, and also since the war in Korea began, has shown that in a period of preparation for war, as well as during war, *almost the entire increase in the demand for transportation is made upon the railways.* And to whatever extent the railways cannot meet this increased demand they become a bottleneck restricting an increase in total production.

The railways have been doing such heroic jobs of ordering new equipment, reconditioning old equipment and publicizing what they are doing, that they may be lulling shippers and the public into a false sense of security. They need not only more equipment, but expansion of their fixed plant, and better use of both equipment and fixed plant. The necessary expansion cannot be accomplished without a large increase of net operating income, for the capital needed must come out of earnings. And yet the railways are having advances in wages and are being confronted with demands for more of them, and are being threatened with more increases of taxes, all of which bodes ill for future net operating income unless there are to be prompt and substantial advances in rates, especially freight rates.

Better Utilization of Manpower

As was said above, the problem of production is one of both plant and manpower. With millions of young men being taken into the armed forces, can the nation produce enough for both military and civilian purposes? It cannot do so if manpower is to be wasted by the federal, state and local governments in continuing the nonessential work of making billions of dollars annually of nonessential expenditures. It cannot do so if present restricted hours of work are to continue to prevail. For the productive effectiveness of both plant and manpower depend upon how much and how efficiently they are *utilized.*

While the air is filled with so much controversial discussion of foreign policy, it cannot be emphasized too strongly, or by too many voices, that the nation is confronted with much more difficult and dangerous economic problems than when it began preparing for the last war. There was then available a large surplus of both plant and manpower which we do not have today. The people generally and most public men are not squarely and intelligently facing these problems. If they are not faced and solved, the economy may not be able to support the burdens imposed upon it, in consequence of which there may be both military and economic disaster.

The situation imposes a great and special responsibility on those who in the last election were given a mandate to re-establish sanity in government, especially as regards expenditures. What are their capacities for leadership? When will they begin to show such capacities, if they have them? Leaders of business and industry, including the railroads, have the ear of the capable part of the nation's political leadership, of both political parties. The course to be set by these political leaders will be largely determined by the advice they get from business spokesmen in whom they have confidence.

EQUAL EXCISES ON ALL TRANSPORTATION OR NONE ON ANY

The National Highway Users' Conference has issued a circular in which it reproduces an editorial published in the December 30, 1950, issue of this paper under the heading, "Why Not an Excise Tax on Private Transportation?" While stating that this editorial is presented "without comment," the Highway Users' Conference *does* offer the comment that, in this expression of ours, this paper "could be speaking for a sizeable segment of the nation's railroad interests."

Erroneous Imputation

That imputation is entirely gratuitous and erroneous. *Railway Age* is a completely independent publication, and nobody but the editor is responsible directly or indirectly for its editorial expressions. The railway union papers are always scolding us for being more prorailroad than the railroads themselves, and there may be some justice in the charge. The editorial which the Highway Users' Conference flatters us by circulating was written by one of our junior editors without "inspiration" from any source whatever except his own observation and study, and was approved by the chief editor after a number of changes were made in the original manuscript.

This paper does not, on principle, favor the excise taxation of transportation—either public or private, but it opposes even more strenuously the imposition and continuance of such imposts on common carrier transportation, when private transportation is exempt entirely from

them. The loss of business by common carriers at a time when private transportation has enjoyed an unprecedented boom indicates that this problem is a real one—and it would be cowardly in a paper which assumes responsibility to provide a forum for the discussion of an industry's vital problems to ignore one as important as this.

If there are any considerable number of railroad men who are in accord with the point of view expressed in our editorial, then we would be very agreeably surprised. Certainly none of them ever expressed or even hinted at such a viewpoint to us.

Turn About Is Fair Play

We repeat that we have no desire to see private transportation burdened with excise taxation—*provided* the excise taxation on common carrier transportation is removed or reduced to a nominal level. Will the Highway Users' Conference agree to favor the elimination of excise taxes on common carriers, so long as private transportation is kept free from such a levy? Such an attitude on its part would be one of turn-about-is-fair-play, and would completely harmonize the views of this paper on this question with what is apparently the attitude of the Highway Users' Conference.

We suggested no discrimination against private transportation. We merely objected and continue to object to the existing discrimination against common carriers—which can be removed by excise taxation affecting all carriers alike, or by removing such taxation from those now singled out for discriminatory levies. The National Highway Users' Conference is at liberty to make its choice between the two methods—but neither it nor anybody else can logically defend the continuance of the present discrimination against the common carriers.

The Tail Wagging the Dog?

"When the truckers talk—or write—about the motor transportation industry—the taxes it pays, the people it employs, the tonnage it transports—they talk and write about the highway boxcars *and* the city delivery trucks *and* all the little trucks in between.

They claim credit for *all* the taxes, *all* the employees and *all* the little packages transported by *all* the little trucks, many of which never leave the city limits. . . Approximately 99 per cent of *all* motor vehicles in Texas were registered [in 1949] for a gross weight of 20,000 pounds and less. Less than three motor vehicles out of every 1,000 in Texas were registered for a gross weight of more than 40,000 pounds. Is the trucking industry trying to hide the ONE PER CENT big boxcar trucks behind *all* the little vehicles? It's a neat trick—if it can be made to work. It's an effort to make the tail wag the dog. It is this small group—this ONE PER CENT—of huge, heavy trucks and combination vehicles which is largely responsible for the high costs of highway construction and maintenance. Their relatively small contribution to the overall costs of Texas highways—state and local—makes it necessary for them to try to hide behind the small vehicles—all of which the big truckers generously refer to as 'highway users.'"—*Texas Tax Journal.*

MODERN SHOP TOOLS REPAY COST IN ECONOMIES AND BETTER WORK

In a paper on railroad shop tools at a recent meeting of the Pacific Railway Club, F. E. Molloy, assistant superintendent motive power of Southern Pacific, described what this railroad is doing to improve the efficiency of cutting tools—with an attendant increase in machine output and an actual decrease in tool costs. For example, the general replacement of solid high-speed-steel tools during World War II by tools made of locomotive-tire steel shanks with high-speed-steel tips is credited with reducing the consumption of high-speed steel from 36,000 lb. a year to about 16,000 lb., or a 56 per cent decrease.

The success of the Southern Pacific and other railroads which have followed this practice is ascribable primarily to correct techniques in forging, welding, heat treating and grinding the high-speed-steel-tipped tools; installing the necessary toolroom equipment for doing this work properly; and, particularly, to developing an effective educational program, system-wide, with frequent check to see that instructions are being carried out. Moving pictures which show how cutting tools are manufactured and used for most satisfactory results on specialized railroad machining operations are proving an important part of this educational program, judging by S. P. experience.

The paper referred to does not neglect to stress advantages secured when carbides and cobalt practices are used to tip cutting tools in accordance with modern practice and thus secure three major advantages, namely: (1) increased production due to faster cutting speeds at higher temperatures which the carbide tips will stand; (2) greatly increased life between tool regrinds or reprocessing; (3) ability to hold a cutting edge when machining abrasive materials, such as most sand castings and hard spots in steel wheel treads. The carbide steel tips are generally secured in place by brazing with a flux and silver solder. Modern tool grinders with relatively soft abrasive wheels are used to form tool radii and cutting angles accurately without overheating.

An additional requirement, necessary with modern metal-cuting tools, is ample power to drive the machines which must be well maintained and have a wide range of cutting feeds and speeds. When these requirements are met, railroad managements will be pleased to find that, in addition to more accurate work and reduced costs, one modern machine will frequently produce as much as two or three older machines; while cutting tool inventories will also be decreased.

Let's Not Let Military Traffic Tempt Us to Forget Our Serious Problems

Managements should unite in seeking authority to make bulk rates, repeal of commodities clause and fourth section

By PATRICK B. McGINNIS
Chairman, Norfolk Southern
Senior Partner, McGinnis & Co.

Since June, 1950, unfortunately, there has developed a tremendous interest in railroad securities—or, rather, the public has developed a tremendous interest in railroad securities for an unfortunate reason—the Korean crisis—which appears to be accelerating rather than diminishing. There is no question but that once again the railroads of the country will be required to do what they did from 1942 to 1945 and carry, perhaps, 90 per cent or more of the military personnel, and an equivalent percentage of the freight ton-miles.

I was in the Office of Defense Transportation in the last war and I have some connection with defense transportation now. We are anticipating in 1951 a freight volume of 750 billion ton-miles, which will be greater than in any year of World War II, when our top was 735 billion ton-miles.

May Be Third Best Year

Already the effect of increased business since June has created profits for the railroads so that, including back mail pay, 1950 should be the third best year financially in railroad history. The Class I railroads should have earned in 1950, including the mail pay, around $725 million net income. As much as any industry can be protected, they will be protected against excess profits taxes.

Normally, our great worry about the railroad industry is gross revenues and net income. For the foreseeable future, certainly during the coming year and the year after, no such concern will be necessary because the railroads will carry a tremendous freight volume and probably a good passenger volume.

Looking optimistically at railroad prospects just because there is a war going on does not, however, appeal to me. If I could not recommend the railroads to investors today except for the military situation, I would keep quiet. Looking at peacetime prospects, there are some important problems to be solved. Within the past four or five years some new groups have moved, perhaps slowly, into the management of several American railroads. I think these people will eventually get their heads together to try to solve these problems—as I see them.

The first great problem of the railroads is that of the "exempt carriers." There are three parts to the Interstate Commerce Act—Part I for railroads, Part II for motor carriers and Part III for water carriers.

This article is an adaptation of a speech made on December 13, 1950, to the Association of Customers Brokers at New York.

One of the sections of Part II excludes from regulation motor carriers hauling agricultural commodities and fish. Congress had in mind the farmer and the fisherman. The section is now abused by the exempt carrier, who moves farm products and fish but who is not a farmer or fisherman. The exempt carriers now, according to Interstate Commerce Commission figures, have reached a total of 40,000. There are only 20,000 common carriers registered with the I.C.C. The 20,000 registered carriers have 250,000 power units and the exempt carriers have 150,000. This exempt carrier has swept the country, particularly since the end of the war—1945. He has stretched agricultural commodities and fish to include almost everything.

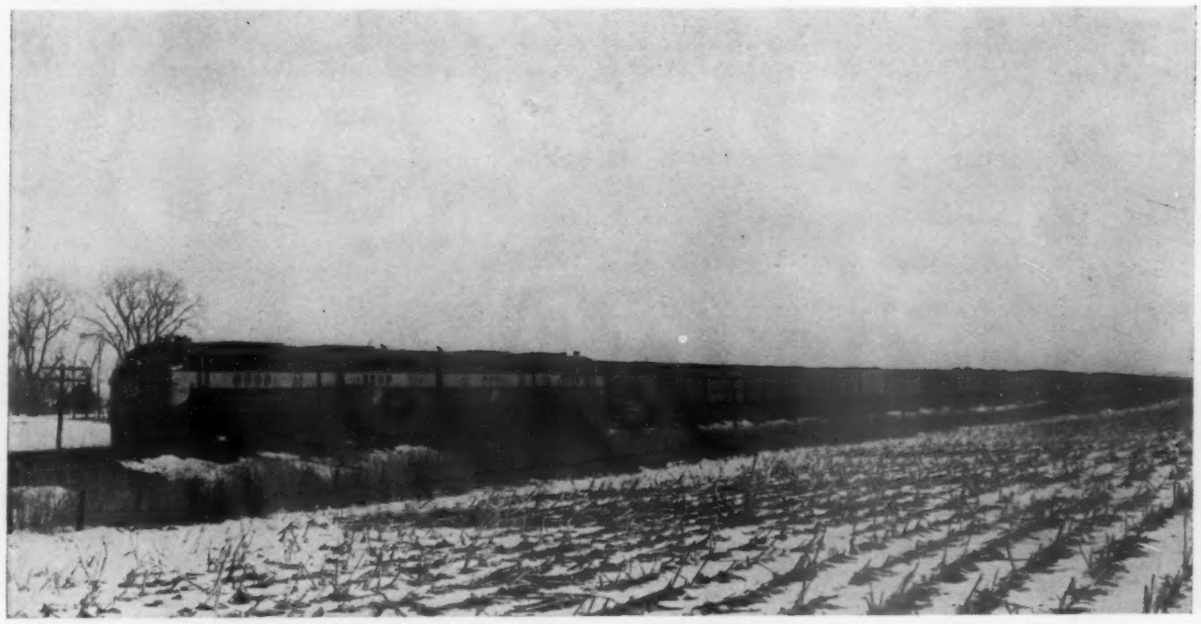
He includes oysters, clams, smoked fish, kippered fish, and any kind of fish. Agricultural commodities now mean oranges and frozen fruits, and this, that and the other thing, to the point where the truckers got 51 per cent of the Florida business in 1950, compared to about 16 per cent in 1946. I know a great deal about this situation personally, because a year ago Norfolk Southern lost its big cash crop, potatoes, to the exempt trucker.

Device of "Trip-Leasing"

The exempt trucker not only takes the fish and the farm products to market, but he brings back a return load. He does this by the device of "trip-leasing." He brings a load of potatoes from North Carolina and takes back something else in his truck, but in order to do that and not violate the law, he hires himself and his truck out to some other carrier which has the right to take products from New York to North Carolina. The exempt carrier picks and chooses his traffic and does as he pleases.

While this problem might seriously affect some railroads, it might not have any effect on other carriers. That has been our difficulty, I think. We have found it hard to get the railroads together—to appeal to Congress to put this law back the way it was intended. It would be very simple. Simply allow the farmer, or the fisherman, to carry his produce to market without a certificate. It would be as simple as that.

The farmer gets no benefit from present practice and the fisherman gets no benefit from it. The only people



who get any benefit are a bunch of fly-by-night exempt truckers, who have no responsibility; who don't disclose their rates; and the only regulations they are subject to are weight laws and police powers over such things as speeding. Congress cannot let this go on and then expect the railroads all of a sudden to carry the whole load, as they may have to do during the next year or two years and perhaps longer.

The second great problem confronting the railroads is the contract carrier. The railroads, we are told time and time again, are the bulk carriers. There is no question about it. We are bulk carriers. We can put 50 tons in a car, and put 150 cars in a train, and lug it a thousand miles behind one diesel engine. We are bulk carriers.

The truck is a retail carrier. It always will be, and there is no way of getting around it. Everyone concedes the railroads are bulk carriers, but we are operating under retail rates, because our rates are based on the box car, or the gondola. One carload is our rate basis.

The contract carrier trucks—which are retail carriers —operate under bulk rates. We have a man who ships 100 cars of his product in a year. He gets from the railroads the same rate for 100 cars as he does for one car. We take it anywhere in the United States, at any time that he wants us to, no matter what it is. The contract carrier makes an agreed or bulk rate. We don't know what his rate is, and there is no practical way to find out what it is. The contract carrier knows the railroad rate, though, because the railroad rate has to be published. They know our rates, but we do not know their rates.

The principle that apparently caused the effective prohibition against contract rates on the railroads is that such rates would discriminate against the small shipper. That is the theory, but they do not apply the theory to the motor carriers. They wanted to prohibit us from making special contracts with the big shipper, yet the law allows contract motor earners to do just that.

I suggest that the law prohibiting discrimination should be applied to the contract carriers, the exempt carriers, and the water carriers, or that it be removed from the books. I personally as a railroad man would rather see the regulation repealed, and let the chips fall where they may.

We cannot go on forever, having the contract carrier take our manufactured and miscellaneous products with his agreed bulk rates. He is not the economic carrier for such traffic. We are the bulk carrier, forced to operate at retail rates, and he is a retail carrier, permitted to operate at bulk rates.

Give Us The Same Break

Let the railroads make bulk and agreed rates. We would put every contract carrier out of business tomorrow morning, if we could do that. They could not compete with us.

As a matter of fact, the I.C.C. advises us to go out and adjust our rates competitively. How can we do that when we don't know the rate the contract carrier charges, and there is no way of finding out what the rate is?

As to water carriers: Everybody says it is cheaper to ship by water than it is by rail. So, in Part III of the act, in which the water carriers are controlled—so-called controlled—they say that a ship which carries no more than three commodities is exempt from regulation. You have few ships in the business today that carry more than three commodities, obviously, because by thus limiting themselves they escape regulation. There are no more general cargo coastwise boats. They are only bulk carriers, and they make bulk rates and thereby get themselves exempt from regulation.

Now, we could carry as much in a trainload as you can carry on most cargo ships—certainly as much in two trainloads. If we were allowed to make bulk agreed rates, we would have a chance to compete with the water carrier.

Now as to gasoline pipe lines: This big carrier sprang up and developed into a tremendous business. Why? Because they made bulk rates. We are not allowed to compete with them. As late as five months ago the I.C.C. said we cannot make a bulk rate on gasoline from Salt Lake City to Seattle, because, if we did, we would discriminate against the man who wants to ship only

one carload. It is all right for the pipe line to discriminate. Does the pipe line take a 100-gallon order? No. They take around 200-million-gallon orders. There again, we cannot make bulk rates, but our competitors can. I don't say that pipe lines are not efficient, but the Union Pacific, which is regarded as a smart operator, offered to put in a bulk rate as cheap as the pipe line and the I.C.C. turned them down.

The private carrier is my next point: The so-called commodity clause of Part I, which affects railroads—Section 1 of Part I—forbids the railroads to be shipper and carrier at the same time.

Another Case of Discrimination

We cannot carry what we make. I can't, as chairman of a railroad down South, build a distillery down there and ship whiskey to New York over the railroad. But the private industrial people can ship their products from the South to New York in their own trucks and take back other commodities. There is no regulation of any kind by the I.C.C. of such an operation. In other words—the private carrier is allowed to go into the transportation business and become shipper and carrier, and we are prohibited from doing that.

The commodity clause applies only to Part I of the Interstate Commerce Act—the part of the act which has the least votes. It does not apply to Part II or Part III, the motor carriers or the water carriers, and not to the contract carriers or the private carriers.

Here again the solution is very simple: Simply put the umbrella of the commodity clause over everybody in the transportation business, or take it away from us. There are a lot of railroads I know which could build an industrial empire if they were allowed to be both producers and carriers—a right allowed to all other businesses except the railroads.

The purpose of the commodities' clause, of course, was to prevent the shipping public from being exploited. But the act was passed in 1887. The railroads are not in a position to exploit shippers now, and they won't ever be again.

Another one of our problems in the so-called "Fourth" section of Part I of the Interstate Commerce Act. The "Fourth" section says we cannot "charge less for a haul longer than the short haul over the same route in the same direction." In other words, the New York Central cannot charge more to carry freight from New York to Rochester than it does from New York to Buffalo. That was put in to protect the small town and hamlet, which, in those days, had no competing transportation to turn to. For instance, let us say Atlanta, Ga., which is not on water, would be protected against St. Louis or perhaps Savannah. So, the railroads can't charge more for a short haul than for a long haul.

But, here again, the trucks can, and the water carriers can. My solution is simple: Remove the "Fourth" section or apply it to all means of transportation alike. The situation has so changed in 63 years that the old prohibition does harm to the railroads without affording any protection to shippers.

You have today all kinds of private barge companies. They are not regulated. They are certainly competing with the little fellow. They don't worry about the "Fourth" section.

These are the problems of the railroads as I see them, so far as freight is concerned. Most railroads are fighting a battle against subsidies for their competitors. I have not mentioned subsidies once. The only time the man in the street or on the road is interested in a big truck is when he cannot pass it on the highway. He doesn't care whether the truck is operating on a subsidy or not.

The story about how much money we pay in taxes, and how little the trucks pay, comes up from time to time. We hear about the water carriers receiving the benefit of $2 billion spent on the Ohio river. What happens? We get more and bigger highways, and more money is spent on the Mississippi Valley, and more money is spent on the Ohio river. So, whether we are right or wrong, the effect of our efforts for 15 years to try to get the public interested in eliminating subsidies is nil.

When I say the public, I mean the voters. Every time

you hear about the cost of a certain airport being too much they start building another airport. I have listened to it time and time again. I have tried to talk against it. I find I am talking to a stone wall.

On the other hand, if Brooklyn had to play with eight men and the Giants played with nine, the voters would remove Governor Dewey the next day, unless the situation were corrected. I believe that if you take these four points I have mentioned and present them, with no axe to grind against the other man, you will get somewhere. Our competitor is a fine man. All we want is to have the same rules that he has. We don't want to put him out of business. We want to operate under the same rules as the motor carriers, the exempt carriers, the contract carriers and the water carriers. We don't want anything else. I think that kind of positive approach is necessary.

I think we would do better if we simply said, "More power to trucks, more power to water carriers. Only give us the same rules. We want nine men, the same as they have, to play this game, and then let the chips fall where they may." In this country all you have to do is to be the underdog to be elected to office, and certainly in this case I think we are the underdogs.

Passenger Train Problem

The next big problem is passenger-train operation. Since 1936 the I.C.C. has required us to separate our passenger revenues and our freight revenues so as to end up with the results for each separately. In 1948, under that bookkeeping procedure, the passenger business, including mail and express, had a deficit of $559 million. In that year our net income was $699 million. So, obviously, even under the adversities which I have mentioned, the freight business makes money.

What can we do about the passenger business? The I.C.C. has asked us to do something about it. Local state commissions have charge, generally speaking, of the abandonments that the railroads should make. And 90 per cent of the requests are turned down. I think, so long as the I.C.C. is our regulating body, Congress should give it the power to by-pass all local and state laws and to decide whether to abandon local operations or not.

The second part of the passenger deficit is mail. We asked for a 100 per cent increase in mail pay and they gave us 25 per cent and then they gave us another 25 per cent after that, and they may give us another increase this year. I think they should give us the whole 100 per cent.

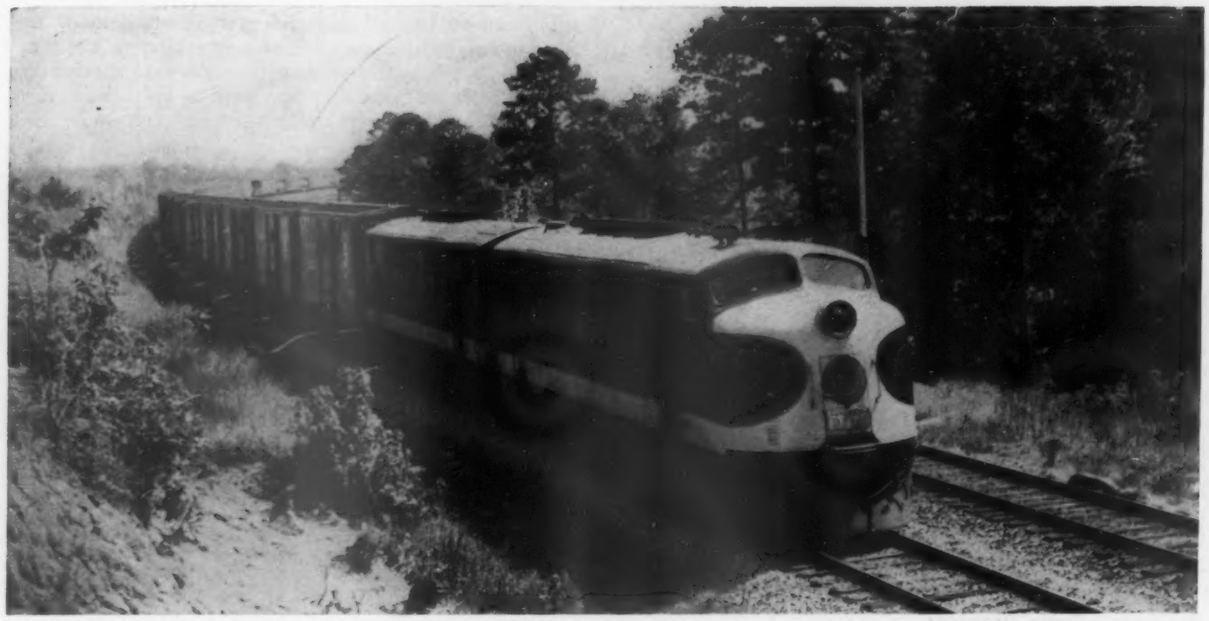
If you ship parcels it is cheaper to ship by parcel post than by railway express. It is up to the post office to raise the rates on parcel post, up to railway express rates. Or it is up to the railroads to sell the railway express to the government and say here, "Take it, and keep it." It is foolish to try to compete with the U. S. government in running a parcel business at a loss. The railway express business, a private venture, is trying to compete with higher rates against a government-operated transportation business which does not have to pay its way. The postmaster general admits his rates are too low. As a matter of fact, he has recommended that they be raised.

Now we come to the more touchy subject of management. I know personally most of the top executives of all the Class I railroads in this country. As railroad operators, some have developed, and perhaps in their early time, rightly so, the theory that experience is intelligence.

I think that Webster defines experience as the actual living of events. There is no question about that.

Now, the power of understanding, and the ability to take the facts and reach a goal, is something else again. In my opinion, that is intelligence. The railroad problem has never been solved. Therefore, I say, there must be a space between experience and intelligence, so that the two do not always mean exactly the same thing.

You can read good statistical services and look until you are blue in the face, and they will not tell you anything about management. They will give you the results perfectly and accurately. But management has more direct effect on the price of securities than any one other factor, in my opinion. I have said many times that no railroad has credit unless it is paying a dividend. Every manager in the world can find an excuse for not paying dividends. But if he pays no dividends he hasn't got credit. In my opinion no railroad has good management which hasn't got credit; or which isn't moving surely and dependably in that direction.



IMPORTANCE OF THE RAILROADS TO THE NATIONAL DEFENSE

By MAJOR GENERAL CHARLES P. GROSS
Former chief of Transportation Corps, U. S. Army

The current enlargement of the national defense and mobilization programs is directing attention again to the part the railroads must play in the accomplishment of these plans. This is, therefore, an appropriate time for an authoritative review of the railroads' performance in World War II.
—Editor

War is based on the movement of men, equipment and supplies. It is a furnace consuming that equipment and those supplies so fast that every source of raw material, every industry and every farm feels its tug forcing the utmost in production. Success goes to those nations that can produce the most and get it into battle first. Transportation is the key—integrated transportation of all means from origin to final destination to utter capacity.

Within our own borders the American railroads are the dominant means of transportation. They are as critically necessary to a war effort as are the Army and Navy. This was recognized, upon threat of strike during the last war, by placing them immediately under the secretary of war until that danger passed. Our national strength is a function of our rail capacity. Preparedness for war is just as essential for our railroads as for our armed forces—particularly when lack of preparedness of the armed forces means that steel plate will go to ships and tanks and not into railway equipment. In the last war the nation, certainly its officials, looked to the railroads to solve deficits of everything, everywhere, by rapid transportation of raw materials, unfinished and finished products, but to create none of their own. Failure could not be tolerated. It is to their everlasting credit and glory that not only did they not fail but through their combined and strongly unified efforts reached heights of performance that none had dared to forecast as possible. The nation may, but the armed forces will never forget it.

The lessons of the first World War in national defense in the railroad field were well learned. This was largely due to the message given by lectures over many years by two fine railroad leaders, Mr. Aishton and Mr. Gormley, to the classes of Army and Navy officers at the Army War College.* There the port congestion resulting from comparatively light traffic seeking transhipment across the ocean at New York during the first World War was critically studied. The abuses of using freight cars for storage, and of dispatching them before prompt unloading was certain, were made the cardinal sins. In World War II, because of the appreciation of those lessons, it took only a "sticky" condition at Philadelphia early in 1942 to create a thorough system of control of the movement of all freight to ports and to excite the construction of nine huge Army holding and reconsignment points, strategically located behind our main ports, with vast storage capacity, to act as surge chambers to make the flow of traffic to and through our ports smooth.

No appreciation of the current role of our American

*Both Mr. Aishton and Mr. Gormley were presidents of the old American Railway Association.

railroads can be had without reviewing their performance in the last war. The burden imposed upon transportation in World War II far exceeded that in any previous war.

First, there was the size of the military establishment. It was unprecedented in the nation's history. From November, 1940, to the conclusion of hostilities in August, 1945, the Army inducted more than 10,000,000 men and women, as compared with 3,832,000 during World War I.

In the zone of interior, this personnel had to be transported to induction stations, reception centers and training centers. After completion of basic training, a large portion of the troops were given specialized training and put through field maneuvers, all of which involved further travel. By the time the soldier had reached a port of embarkation ready for service overseas, he had made at least five Army-planned trips by railway or highway, and in most cases more. In addition, he probably had made several furlough trips at his own expense.

Effect of Mechanization

This global conflict saw many significant developments in the art of warfare. Prominent among them were the more complete mechanization of ground forces and the great advance in air power. Each of these had direct transportation implications. The machines themselves—the motor vehicles, armored tanks and airplanes—were bulky and required a great amount of space when shipped by railway, highway or water. They consumed fabulous quantities of gasoline and oil, a large part of which moved from point of origin to point of consumption in tank cars, tank trucks, and tank vessels. The intricate mechanism required constant maintenance, so that repair shops and replacement parts had to be shipped wherever they might be needed. Animals and forage were considered space-consuming freight, but they did not approach the requirements of the motor-propelled machines which characterized the recent conflict as the first great mechanized war.

The increased mechanization of the land forces and the widespread employment of air power added greatly to the tempo of the fighting, and this greater tempo, together with the greater power of explosives, stepped up the destructiveness of warfare to a marked degree. Another result was the greater attrition suffered by weapons and other equipment kept constantly in action. This greater destruction and greater attrition meant that greater quantities of replacements had to be shipped to the forces. The tonnage differed with different theaters and at different times, but on the average about six measurement tons of equipment and supplies accompanied each soldier sent overseas, and one ton per man was shipped each month thereafter.

In addition to destroying all facilities which might be of use to the invading American forces, the retiring foe consumed or took with him as much subsistence, fuel, and other supplies as he could seize, and the United States Army found it both humanitarian and politically expedient to provide the necessities of life for the impoverished civil population—another charge upon transportation.

At times during the period of hostilities, the Army utilized as much as 50 per cent of the sleeping cars and 30 per cent of the coaches in service on the American railroads, shipped as high as 12.5 per cent of the freight carried by the railroads, and had in its service more than 48 per cent of the ocean-going shipping, other than tankers, under American control.

The heavy transportation requirements of the Army by land and sea naturally constituted only part of the load placed upon the carriers. The shipping program of the Navy also was large. The huge quantities of equipment and foodstuffs which were sent to our Allies under the Lend-Lease Act competed for car and ship space with the supplies which we were transporting to our own

forces. Whereas in 1917-18 the American Expeditionary forces obtained about half of their supplies and equipment from European sources, in World War II the United States assumed the role of the Arsenal of Democracy. The home civilian economy, though curtailed in some respects, suffered no serious encroachments and continued to make heavy demands upon the carriers.

During the period of our participation in the war—a period of 45 months from December 1941 through August 1945—the Office of the Chief of Transportation routed 33,678,000 passengers in organized groups of 40 or more. Of this total, 32,881,000 (97.6 per cent) were routed by rail, and 797,000 (2.4 per cent) by bus. The best comparable data for World War I indicate that 5,406,000 passengers were moved by special train during a period of 18-1/3 months, from May 1, 1917, through November 10, 1918. The high monthly movements were: April 1943, 1,040,000 troops; August 1945, 1,174,000.

From December 1941 through August 1945, the freight moving on War Department bills of lading totaled 324,891,000 short tons. This movement, which began with 1,600,000 tons in the first month of the war, reached a peak of 11,001,000 tons in March 1945, and then began to decline as the German resistance weakened and the end of the war in Europe appeared to be near. The heaviest monthly movement of War Department freight by rail during World War I was 1,105,000 tons in October 1918. The volume increased after the Armistice to a peak of 1,446,000 tons in March 1919.

Route Orders

In World War II all carload shipments, whether domestic or for export, were routed by the Office of the Chief of Transportation. As many as 40,000 route orders were issued in a single month. A substantial part of the less-than-carload shipments was handled by the consolidated car service which the Transportation Corps operated. Other l.c.l. shipments were routed by the transportation officers at points of origin. An analysis by carrier (except air) of freight moving on War Department bills of lading during the 45-months period, December 1941—August 1945, follows:

	Short Tons	Per Cent
Rail — carload	288,142,000	88.7
Rail — l.c.l.	4,880,000	1.5
Rail — express	1,099,000	.3
Motor carrier	26,534,000	8.2
Inland waterway	4,236,000	1.3
Total	324,891,000	100.0

On the basis of ton-miles, War Department freight transported by the railroads was 5.1 per cent of their total freight in 1942, and increased to 12.5 per cent of the total in June of 1945. As between the year 1942 and 11 months of 1945, the average distance covered by War Department shipments by rail increased from 700 to 780 miles.

Nationally, from 1939 to 1944, passenger traffic on the railroads in passenger-miles increased more than fourfold and freight in ton-miles more than doubled. From the end of 1939 to the end of 1944 the number of passenger cars on American railroads increased from 29,685 to 30,997, but between those years the number of passengers carried per car increased from 13.36 to 31.87, and the total revenue passenger-miles increased from 22,651,000,000 to 95,549,000,000. During this period the number of freight cars of all types increased only from 1,931,217 to 2,040,514, but the average net tons per loaded car was stepped up from 26.9 to 32.7, while revenue ton-miles advanced from 333,438,000,000 to 737,246,000,000. The number of railroad-owned locomotives increased only from 42,511 to 43,612, but the average miles traveled per day increased from 184.2 to 222.9 for active passenger locomotives, and from 104.0 to 122.8 for active freight locomotives. In these figures is reflected the increased efficiency which enabled the railroads to cope with the tremendous traffic which the war threw upon them. This increased efficiency was the result of wholehearted cooperation among the government agencies concerned, the carriers, and the shippers.

Less but Better

Although the American railroads had less equipment in 1941 than in 1917, it was better equipment. Their physical plant generally was greatly improved, and as an industry they were much better organized to meet the emergency. In particular, the establishment of a strong central organization, the Association of American Railroads, was a noteworthy improvement. This organization, which had broad authority to act for its members, maintained headquarters in Washington so that cooperation between the Army Transportation Corps and the railroads was greatly simplified. As a matter of fact, the association's Military Transportation Section was located in the Pentagon and functioned as much as an agent of the Army as the railroads. This same close coordination existed between representatives of the A.A.R. and the Transportation Corps throughout the country.

It may be said that the American railroads fulfilled their transportation mission so well that the full war might of the United States as a nation in arms was brought to bear on our enemies to achieve overwhelming victory. They took in stride the ever-expanding load clear through to the end. They overcame their obstacles by strongly united action and by constant improvements in efficiency. Courage, energy, initiative, decision, cooperation, the will to do, were in their fiber. They knew the vital character of time. They, too, had their Pattons.

As a result there is a deeper appreciation by the public than ever before of the essential role the American railroads plays in our national life. It was widely felt before the war that the railroads were being displaced by our motor highways and our inland waterways. But when the war came, what happened? More than 90 per cent of War Department freight moved by rail, scarcely 9 per cent by highway, and the small remainder by inland waterway. No better proof, it would seem, were needed to show that our railroads are essential to our national defense, that they must be maintained in a high state of efficiency. This will be truer in the future than in the past, for *with the release of atomic energy wars will be sudden and swift and the principle of movement will take on overwhelming importance.* Federal operation is not the answer. One need only compare the inefficiency, and the burdening deficits resulting therefrom, of governmental operation in World War I with the superb performance and the sound financial condition characterizing private operation in World War II, to shun such a solution. Happily, there is real hope that with growing public appreciation of their proper role, of their proven worthiness, of the energy and vision which they are showing in meeting their peacetime mission ahead, the railroads will no longer be a political football, but as a private enterprise under wise regulatory control they will receive the public support so necessary to insure for us all a favorable national destiny.

The new storehouse, with covered platform at the opposite end, in which has been centralized, from various scattered locations in the coach yard, the storage of parts and materials for passenger car maintenance

NEW BUILDINGS FOR SEATTLE COACH YARD

Northern Pacific and Great Northern have added several modern structures to joint King Street Station facilities to centralize passenger - car maintenance activities

To enhance the efficiency of their jointly owned and operated King Street coach yard at Seattle, Wash., the Northern Pacific and the Great Northern have invested a total of $890,000 in five new facilities at that point. One of these is a storehouse, including a roofed platform, in which has been centralized, from scattered locations in the yard, the storage of parts and materials for the maintenance of passenger-train equipment of the two roads. The others include an oil house; a building for the storage of the various fuels used in the coach-yard operations; a car-service building in which has been consolidated all the car-repair operations previously conducted at various scattered locations; and a central heating plant which supplies steam not only to the new buildings but also to various other joint facilities, including the King Street passenger station, express and Pullman buildings and commissary buildings. The new heating plant replaces two former power plants which were inadequate for present-day requirements.

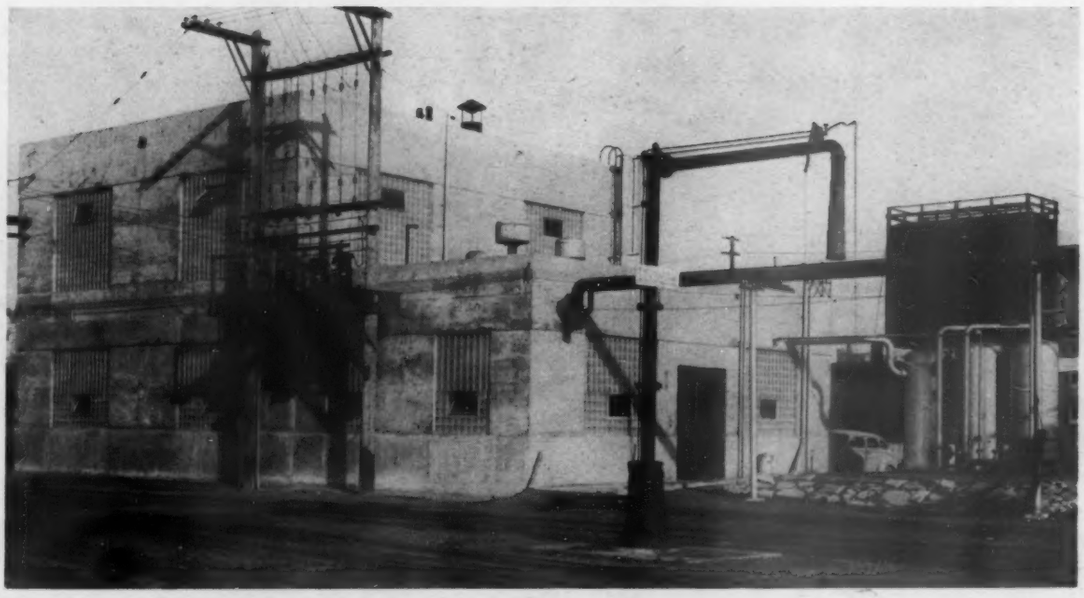
The new storehouse is 50 ft. by 150 ft. in plan. Its walls and floor are of reinforced concrete. The roof, supported by steel trusses, consists of steel decking covered with four-ply asbestos-felt roofing and 1-in. insulation. Parts of the floor area are partitioned to enclose offices and toilet facilities. The entire structure is founded on creosoted timber piling. The covered platform, which is 74 ft. by 133 ft. in plan, projects from one end of the storehouse proper. Its roof and floor are of the same construction as the comparable parts of the warehouse. Mechanical materials-handling equipment assigned to the storehouse includes a Yale electric platform truck and a Yale 6-ft. telescopic fork-lift truck.

Adjacent to the platform is the new oil house, a well-ventilated, fireproof, all-concrete building, 20 ft. wide by 49 ft. 8 in. long. The new fuel-storage building situated next to the oil house, is 35 ft. wide by 100 ft. long. The floor of this building is of reinforced concrete and is supported on creosoted piles. The walls are concrete block and the roof is timber covered with two-ply asbestos-felt roofing. The building is divided transversely into five sections, each 20 ft wide, providing separate storage areas for various types of fuel.

The car-service building, 32 ft. by 361 ft. in plan, is about 300 ft. from the fuel-storage building. Also of concrete-block construction, this building contains separate rooms for carrying out painting work, upholstery re-

With roof carried on steel trusses the storehouse interior is free of supporting columns

Car-repair activities, formerly carried out in several widely-scattered locations, have been consolidated under one roof in this new car-service building, which also provides a lunch room, a locker room and toilet facilities for carmen



The new central heating plant supplies steam for all joint facilities at the King Street station

pairs, welding work, steam-fitting repairs, repairs of air-conditioning equipment, repairs and tests of air-brake equipment, general repairs, and electrical repairs. Other separate rooms are provided for the storage of electrical equipment, car-cleaning equipment, batteries and vehicles.

A lunch room, a locker room, and wash room and toilet facilities have been provided in the building for the comfort and convenience of the coach-yard employees. Materials handling in this building is facilitated through the use of a Hyster fork truck, 2 Allis-Chalmers tractors, 2 Yale electric tractors and a Buda Chore Boy.

All the new buildings have been interconnected with concrete and asphalt runways to facilitate trucking operations.

The new heating plant is 45 ft. 8 in. wide by 69 ft. long. The walls and floors of the building are constructed of reinforced concrete and are designed to resist earthquake shocks. The roof, of lightweight concrete slabs supported on steel joists, is insulated with 2-in. Foamglas and is covered with five-ply built-up roofing with asphalt and gravel topping. The windows are all of glass block. The foundation consists of concrete footings supported on piling.

The boiler room houses two 315-hp., 3-drum, water-tube, oil-burning boilers, an oil heater, fuel-oil pumps, and forced and induced draft fans for each boiler. The runways and platforms in the boiler room are constructed of subway grating with structural steel supports. In the compressor room are two motor-driven air compressors, one having a capacity of 1,546 c.f.m. and the other 1,133 c.f.m. Storage space for fuel oil is afforded by two 15,275-gal. underground tanks.

All the structures described in this article were designed by and constructed under the supervision of the engineering department of the Northern Pacific.

"THE HIGHWAY CRISIS"

This paper has published a 50-page pamphlet, 4¾ in. by 9 in., with the foregoing title—the purpose of which is to provide all interested persons, and particularly railroad men, with authoritative information from official and other non-railroad sources on the extent to which the nation's highways are being damaged by heavily laden long-haul trucks and combinations; and to draw attention to the improvidently low fees charged in most jurisdictions for use of the highways by these heavy, long-haul vehicles. Attention is also called to the hazards to safety created by these huge vehicles, and to the frequency with which laws limiting weights are violated.

The booklet is the outgrowth of an illustrated address made by the editor of this paper to the New York Railroad Club in January, 1950—in which the endeavor was made to present the highway situation entirely in terms of the public (rather than the railroads') interest, and to make the data available visually as far as possible. At that time other hands were invited to improve upon this presentation and this pamphlet is the result of the response to this invitation.

The pamphlet contains nothing about the injustice done the railroads by competition at the hands of a rival which relies so heavily on the public treasury to contribute to its cost of doing business—instead, the emphasis is entirely on the interest in this problem on the part of the taxpaying public and of highway users other than the operators of heavy, over-the-road operators. The pamphlet is priced at 10 cents for a single copy. Quantities are available at actual cost of printing and mailing, quotations on application. Address Editor, *Railway Age*, 30 Church street, New York 7.

The diesel itself appears to be on skis as this B. & M. "Snow Train" arrives at North Conway, N. H., in what looks like good powder snow, made to order for the ski enthusiast

Cold Weather Means Cold Cash for B. & M.

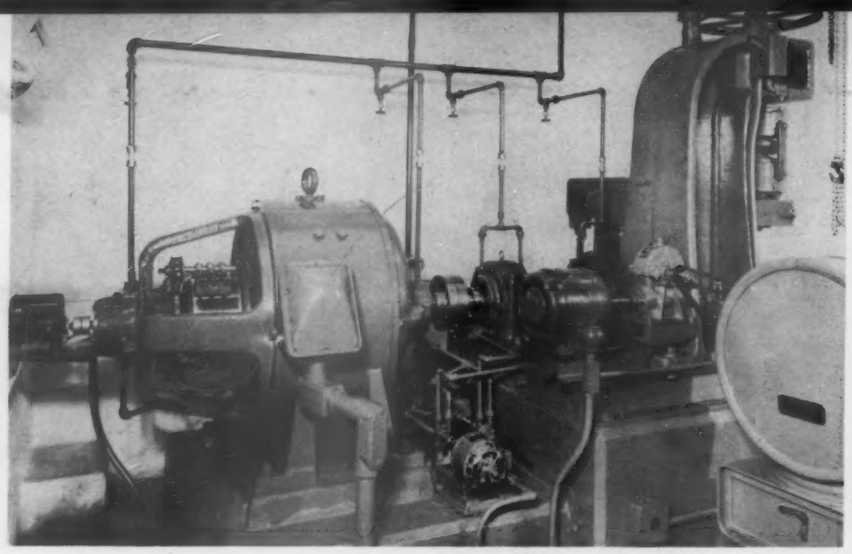
It was just 20 years ago, in January, 1931—when the big depression was cutting railroad passenger traffic to new lows—that the Boston & Maine startled the railroad world with a new idea—a special one-day or week-end excursion train for the particular benefit of winter sports enthusiasts. The first such train—brainchild of Frederick T. Grant, then general passenger agent of the B. & M.—carried just 197 passengers. Subsequent trains, through the end of the 1950 season, and excluding the war years 1943-1945, have carried a total of 216,644, an average of just about 12,750 for each operating season. The trains, generally running out of Boston, have long since become a New England insitution, of proved benefit not only to the B. & M.—which stimulates patronage by skilful publicity and accurate weather reports—but to newspapers, sporting goods stores and destination localities.

(Above) Part of the fun comes on the trip itself. (Below) Trains are parked for the day at destination stations, with all accommodations, including lunch cars and one for sale or rent of sports equipment, always available to passengers

About four out of every five passengers are skiers—amateurs or experts. The rest are camera enthusiasts or people who just want to get out of doors

There's plenty of business for ski tows—and other local enterprises as well—when a "Snow Train" is in town

Sunday "Snow Trains" now run to Intervale, N. H., and North Conway, because that area has the necessary number and variety of ski slopes, trails, tows and other facilities to handle the number of people—of all degrees of skiing skill—who patronize the one-day excursions



Side view of the full-size testing machine, Indianapolis laboratory, showing variable-speed 40-hp. motor which supplies power to drive the journal

A.A.R. Lubrication Tests Progressing

Fourth report of research group shows the oil characteristics most needed in subzero temperatures

The purpose of the lubrication research program of the Mechanical Division of the Association of American Railroads is to compare and evaluate different means of lubricating the conventional solid-type bearing journal-box assembly as applied to railway cars. The ultimate objective is establishing a factual basis for recommendations covering possible revisions of practices and material specifications designed to increase safety and improve service performance.

Scope of the Tests

The first progress report, dated September 30, 1949, covered a group of 38 "screening" tests, run under summer atmospheric conditions, comparing packings made up of various waste thread types and combinations thereof, all saturated with the same lubricant—stock renovated car oil.

The second progress report, dated June 1, 1950, covered further tests run under the same conditions as those prescribed for the original screening program. Additional tests were also reported of selected finished packings, in combination with a number of commercially available new car oils and with the basic stock renovated oil.

An investigation of the effects of moisture in journal box packing and of reduced weight of the waste pack also was described in this report.

The third progress report, dated September 1, 1950, included the results of the final screening of various combinations of the waste and oil constituents, run under summer atmospheric conditions on the eight-journal test machine at the Indianapolis, Ind., laboratory. This report also dealt with exploratory tests utilizing the multiple-spindle machine housed in the temperature-control room and operated at zero deg. F. ambient temperature. Data and tabulations of the results of tests made with a stock cotton packing in combination with various percentages of representative "cut-back" oils and extreme pressure (E-P) additives to the standard renovated oil concluded this report.

The fourth progress report covers a series of exploratory tests run on the full-size machine (5½ in. by 10-in. journal) housed in the controlled-temperature room. The procedure for carrying out these exploratory tests on the large machine was a progression from the Series 10 tests at zero deg. F. ambient temperature carried out on the small eight-journal machine as reported in Part II of the third progress report. A new schedule, designated W-O-(L-15 deg.) was evolved to compare and evaluate the characteristics of available waste threads and yarns and ordinary and premium car oils in the development of thread risers or rolled packings at starting and during slow speed operation at subzero atmospheric temperature.

This series of exploratory studies yields comparable information relative to the characteristics of a range of car oils and the tendency towards disturbances and displacements of typical waste threads and yarns, when combined into waste-pack lubricators, subjected to starting and slow speed operations, under subzero atmospheric operating conditions.

The data obtained "strongly indicate" to the committee the following conclusions:

(1) The desirable characteristics of the oil constituent of the waste-pack for subzero operation are fluidity and non-stickiness. (a) These characteristics are exemplified in the three premium and the special low-viscosity oils experimented with, but (b) the three ordinary stock oils—two new "all-year" varieties and the base stock renovated oil—included in this series of tests do not have these desirable characteristics.

(2) With the exception of the rayon slasher (W-O-L-15 deg.-10), the thread or yarn type or mixture in the waste-pack is of secondary importance or potentiality in the development of packing disturbances and displacements attributable to the waste-pack type of lubrication at a subzero atmospheric temperature operation.

In the first progress report, it was stated that by the very nature of the material commonly used in making up railway equipment journal box packing, the finished packing (waste) is a product which varies in its physi-

cal and functional characteristics through a relatively wide range.

From the accumulating array of facts being made available through the continuance of this research program, the committee now considers it proper to extend this general statement to include the car oil type lubricants ordinarily used.

The report said that the desirable functional characteristics of the oil lubricants for use during the winter months in combination with the conventional waste-pack journal lubricator have been indicated through the overall results of the 29 exploratory tests it describes. A second series consisting altogether of 25 additional tests to the W-O-(L-15 deg.) schedule is now being run off at the laboratory. This second series includes three "sticky" oils and four "non-sticky" oils, in combination with three finished packings (all-wool, all-cotton and 60-40 per cent wool-cotton) recommended by the waste manufacturer and differing from those included in the exploratory series described in the current report. The results of these additional W-O-(L-15 deg.) schedule tests, now in progress at the Indianapolis lubrication laboratory, will be included in a subsequent progress report.

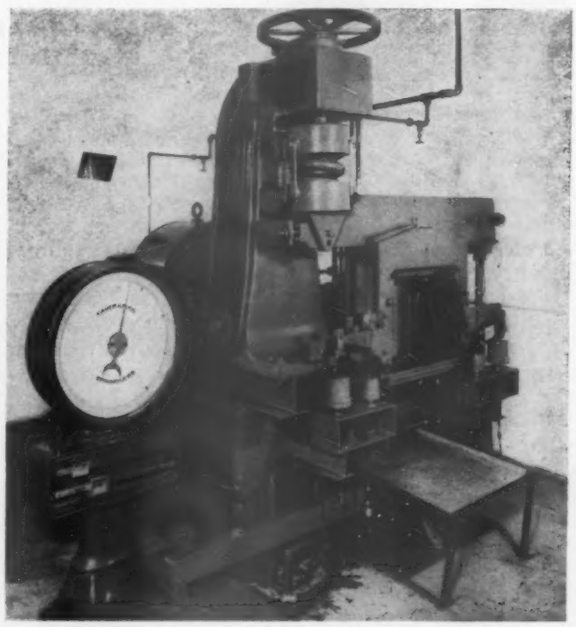
The results of these two series are expected to establish the requirements of a truly "all-year" car oil for country-wide winter operation. Concurrently, the requirements of the proposed all-year car oil in the extreme summer atmospheric temperature range are being studied at the laboratory.

The promulgation of a workable specification for the desired all-year car oil, for use in combination with the present conventional waste-pack journal lubricator, will require additional work in collaboration with the oil suppliers. A relatively simple procedure for checking and insuring the essential functional requirements of a car oil in the average railroad member laboratory is a desired objective, the report points out.

Description of Apparatus

The full-sized testing machine at the Indianapolis lubrication laboratory, utilized for the test series covered in the fourth progress report, is illustrated. Also employed was a special canvas vestibule (with zipper opening) constructed for the earlier Series 10 tests. This arrangement permitted the observers to enter and leave the cold room from the main laboratory without materially changing the atmospheric temperature within the insulated room. The laboratory attendants were supplied special clothing to enable them to work extended periods at the —15 deg. F. temperature maintained within the controlled temperature room.

All tests were run under the direction of J. R. Jackson, mechanical engineer, A.A.R. Mechanical Research Office, Chicago. R. M. Marshall, mechanical assistant, A.A.R. Mechanical Research Office, acted as official observer at the laboratory between November 5, 1949, and April 12, 1950. L. D. Grisbaum, chief engineer; L. G. Taylor, chief chemist and test plant superintendent; K. W. Brossart, test plant operator; and W. Brock, substitute plant operator, all employees of the Railway Service and Supply Corporation, were mentioned in the report for their assistance in the conduct of the investigation.



Front view of the full-size testing machine showing the journal box, axial-load scale and torque-measuring assembly. The machine is in a room insulated by 12 in. of cork, in which the temperature can be varied between —30 deg. F. and 100 deg. F.

Two instances of extreme packing rolling caused by renovated oil—Later work at the laboratory indicates that addition of neutral stocks and additives will overcome the viscous characteristics of stock lubricants investigated

Jacob Aronson Dies at 64

Represented railroad industry in many important cases; had been 44 years with the New York Central System

Jacob Aronson, an outstanding executive in the railroad industry, whose recent retirement as vice-president and general counsel of the New York Central system was reported on page 242 of last week's *Railway Age*, died on January 13 at his home in Scarsdale, N. Y. He had been seriously ill for several weeks.

Mr. Aronson's Career

Mr. Aronson was born in Brooklyn, N. Y., on January 2, 1887. After graduation from law school he worked as a stenographer and studied law in the evening classes of Brooklyn Law School of St. Lawrence University. He was graduated with the degree of bachelor of laws in 1906. Twenty-eight years later an honorary degree of doctor of laws was conferred upon him by his alma mater. Mr. Aronson, who was admitted to the bar in 1908, joined the law department of the New York Central & Hudson River (now part of the New York Central), in November, 1906. He became, successively, assistant attorney, assistant general attorney (1922-1926), assistant general counsel (1926-1929), general counsel (1929-1933), and vice-president, law (1933-1947). In 1947 he became vice-president and general counsel.

Mr. Aronson, who had served as a director of the Central, was an officer or director of many Central affiliates and subsidiaries. At his death he was a member of the law committee of the Association of American Railroads; a vice-president of the Chamber of Commerce of the state of New York; and a member of the American, New York State and New York City Bar Associations. For several years he was chairman of the executive committee of the Union of American Hebrew Congregations. He also was a member of the Masonic Order.

Served in 1934 Pension Case

He represented the nation's railroads in many important cases. Mr. Aronson served as chief counsel for the eastern railroads in the wage cases of 1921 and 1922 and as chief counsel for all railroads of the United States in the wage cases of 1943 and 1944. He served as counsel in the famous railroad pension case of 1934 and participated in the argument of that case in the U. S. Supreme Court. He represented the railroads in that court in the Pullman acquisition case of 1945. He also was chief counsel for U. S. railroads in the last general freight rate increase cases before the Interstate Commerce Commission.

Tributes to Mr. Aronson

"The railroad industry will feel greatly the untimely loss of Mr. Aronson. He had been the head of our law department since 1933 and served the New York Central and the railroad industry for 44 years with outstanding ability and distinction."

—Gustav Metzman, president, New York Central

"Jacob Aronson was one of the most brilliant advocates the railroad industry has ever had. His great intellect, his colorful personality and his indefatigable industry made a rare combination that is hard to equal. In his passing the railroad industry has suffered a great loss. He will be sorely missed in the councils of the railroads."

—William T. Faricy, president, Association of American Railroads.

"Jacob Aronson was outstanding as a man and a lawyer. For many years prior to his death he was a tower of strength to the entire railroad industry. He had a broad philosophy, a deep knowledge of railroad matters and in my opinion was the most powerful advocate in the industry. Sage counselor and loyal friend, he will be profoundly missed."

—Sidney S. Alderman, vice-president and general counsel, Southern.

"With the passing of Jacob Aronson the railroad industry lost a great leader and one of the ablest and most colorful advocates before the American bar. His activities in the field of law were as broad as the interests of the railroads. He was the leading counsel in many rate cases and labor cases of nationwide scope and overshadowing public importance. He tried with distinguished success almost every kind of case which could come before the courts or the federal or state administrative tribunals. His personal qualities matched his professional attainments and he left a host of affectionate and admiring friends from coast to coast who will always treasure memories of their association with him."

—J. Carter Fort, vice-president and general counsel, A.A.R.

TRAIN-TRUCK TROUBLE

Some aspects of the competitive situation in transportation are appraised by L. K. Sillcox, executive vice-president of the New York Air Brake Co.

That the railways represent the most economical form of land transport is indisputable, and to the most economical medium should go the traffic. The railways then can quote attractive rates, but it is necessary to provide satisfactory service if they are to regain traffic lost to competing carriers and retain that which has to date remained on the rails.

Less-than-carload traffic is an important source of railway revenue and is worthy of intensive effort on the part of the carriers for its retention or attraction back to the rails. It generally produces more freight revenue in each year than any other single classification reported in the commodity statistics except bituminous coal. In 1948, less-than-carload traffic accounted for 6.3 per cent of total freight revenue, while representing but 1.2 per cent of total freight volume. On a revenue-per-ton basis this traffic was surpassed in income returned to the railways only by forwarder traffic, which grossed $33.28 per ton as compared with $28.67 per ton of less-than-carload freight.

For a quarter of a century rail less-than-carload traffic has failed to maintain gains comparable to industrial and agricultural production, thus indicating that serious inroads are being made by other transport media into traffic formerly moved by rail. Furthermore, while rail less-than-carload traffic has been constantly shrinking, commercial highway haulers, private highway haulers, and, in recent years, carriers by air, have continually increased their tonnage. Railway management realizes that to reverse this trend, thorough study directed to the improvement of service is necessary and constant policing of improved methods, once they are instituted, is essential. In fact, within the last year a renewed consciousness of the value of less-than-carload freight has become pronounced and on many roads efforts have been intensified toward the retention of that traffic.

An often overlooked deleterious effect of the diversion of merchandise traffic to competing agencies is the accompanying reduced contact between the railroads and a major segment of the public who normally influence public opinion to an appreciable degree. Especially is this true of the smaller communities where the citizenry is normally favorable to the railways because of their importance to the communities in that railway taxes form a major portion of total collected, as well as because in many communities the railways offer employment opportunities. With the diversion of passenger traffic from the rails to the highway so largely an accomplished fact, many businessmen have no contact with the railways other than through the shipping or receiving of merchandise freight, in that they do not operate in volumes that require carload service. Thus, ultimately, the good will and support of a valuable block of public opinion is irrecoverably lost.

Value of L. C. L.

There are two schools of thought relative to the value of less-than-carload traffic as a revenue producer and thus relative to the merits of exerting serious efforts to regain l.c.l. freight volume, which has been transferring to the highway at an ever-increasing tempo. In fact, there are on the railroads some who would like to refuse to handle such shipments at all.

There is, however, an imposing and more optimistic school of thought among railway leaders that maintains l.c.l. traffic is economically feasible and can represent a source of much needed net revenue if definite steps are taken to provide special merchandise schedules, equipment, and streamlined freight-handling methods to give the shippers the speed, dependability, and regularity demanded. This thinking contends that service competitive with the trucks can be provided profitably and economically with judicious adoption of the many time-saving and work-saving techniques known to the railway industry.

A most important link in the chain of l.c.l handling methods is the transfer platform operation. Less-than-carload freight, principally manufactured goods, originates generally in large towns and cities. Its destinations, however, are manifold. Every hamlet has a general store which depends in large measure on its inventory received in items in less-than-carload lots. It is obvious that each originating city cannot make a direct car to each of these manifold destinations. Therefore, it is necessary that the shipments be channeled through transfers where tonnage from several origins can be accumulated, sorted, and reloaded to various destinations in quantities sufficient to warrant the assignment of a car or motor truck. The transfer then is an essential part of the l.c.l. operation which, unless properly planned, equipped, and supervised, can be a major detriment to expeditious handling, as well as a drain upon revenue. To guard against both eventualities the railways have expended great sums in station equipment—self-propelled transfer trucks to operate between cars and loading docks, fork-lift trucks, portable cranes, etc. Mechanized billing equipment is also being installed to eliminate paper-work delays, while improved layouts, and in some instances new stations, are part of modernization programs.

Transfers Involve Delay

Irrespective of these improvements, each transfer involves at least a 24-hour delay and every effort is made to hold to this minimum. The 40-hour week increases this delay on roads which cease transfer operations on Saturdays and Sundays, and if a holiday should fall on the preceding Friday or following Monday, there may be a three-day cessation of operations. The resulting accumulation following the shutdown period results in further delays and if a shipment should encounter two such transfers during its course of movement it can readily be appreciated that an untenable delay will occur, resulting in poor service and dissatisfied shippers and consignees. One of the essential requirements for successful l.c.l. operation is to keep the freight moving—whenever it comes to rest in yard or transfer, momentum is lost. That waste time is also waste money because costly energy is required to again set the shipment in motion. Good transfer operations also minimize the annoyance and expense of tracing delayed shipments. Where tracing is necessary, however, a well-run transfer can quickly tell when and where the shipment was handled.

That shippers and responsible railway officers evaluate l.c.l. handling performance from contrasting viewpoints is readily apparent from discussions with representatives of the two groups. The shipper is interested in total time which elapses between the time a call is placed for the pickup of the shipment (or from the time shipment is delivered to the originating carrier's freighthouse) and the time the shipment is delivered to the consignee's platform or truck. If a shipment lies in originating freighthouse from Friday until Monday before it is dispatched, a three-day delay has occurred in his opinion, irrespective of the fact that the detention was attributable to tri-weekly sailing dates only being accorded that station. On the other hand, the railway officer judges this handling to be on-time performance because the shipment was dispatched in the first car scheduled for departure following receipt of the ship-

This article is made up of excerpts from a paper presented, with supporting data and exhibits, at the Graduate School of Business Administration of Harvard University, December 8, 1950.

ment by the railway. And who can say that both are not correct? It is only a matter of through whose eyes one looks. In any event, both the shipper and the railway officer are interested in and are striving for improved service.

That so-called head-end traffic disrupts many passenger train schedules is generally appreciated; also that some means to eliminate the delays incident to handling this traffic is essential, if satisfactory service is to be accorded the traveling public. By the same token patently l.c.l. traffic handled in ordinary freight trains has not been productive of satisfactory service to the shipping public. These two conditions would suggest the need for an intermediate service wherein mail (except first class), baggage, and express would be associated with l.c.l. and handled as independent movements. By this practice passenger train time would be reduced, and, as important, schedules would be rendered dependable, and merchandise handling would be withdrawn from freight terminals where delay is so often experienced. At the same time this intermediate service is introduced, timetables should be provided the shipping public. These timetables should show origin, destination, frequency of service, closing hour, and scheduled arrival day.

Even though the recommended intermediate service is not provided, the desirability from a service standpoint of publishing l.c.l. schedules is not diminished. Trains, whether they be freight trains or "intermediate service" trains, operating on a timetable schedule, should be held as strictly accountable for on-time performance as are passenger trains. As it is now, there is insufficient effective control of freight train performance over extended runs.

Less-than-carload freight is of utmost importance to the economy of the United States and is the core of the competition between the railways and motor trucks. The latter are able to establish rates which undercut those published by the railways, because of the subsidies they enjoy. Railways recognize that there are service shortcomings in their handling of this traffic and they are making constructive and determined efforts to eliminate, or at least minimize, those shortcomings. Coordinated rail-highway service is an important tool in providing the service, but its use must await permission of the Interstate Commerce Commission and state regulatory bodies. This points up the necessity of prompt action by the regulatory commissions on applications for this type of service, and they should not be unduly impressed by protests inspired by the self-interest of the motor carriers, but rather should render their decisions wholly on the basis of the public interest.

To meet motor truck competition successfully it is essential that the railways provide a complete door-to-door service without the assessment of a plus charge over and above the published line-haul rate. To be sure, the plus charge tends to offset the high cost of this terminal service, but, unfortunately, at the same time, it also tends to divert more and more less-than-carload traffic to the motor carriers who provide the complete service under their line-haul rates. The railways can do no less than meet truck competition in its every facet if that competition is to be maintained. Otherwise, the traffic will go to the highway by default.

Communications . . .

More on "Moving Highway Trucks on Trains"

BIRMINGHAM, ALA.

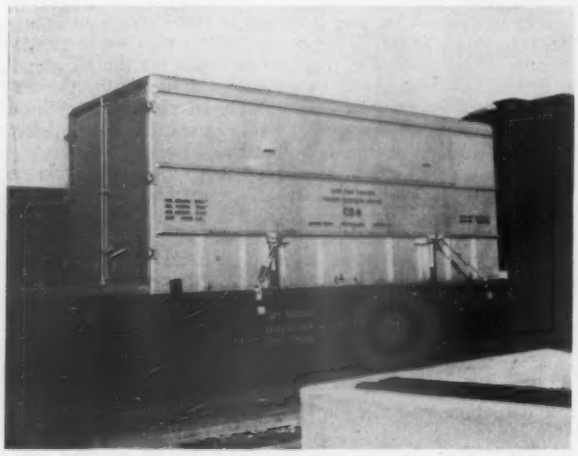
TO THE EDITOR:

Your article "Moving Highway Trucks on Trains," in the November 4, 1950, *Railway Age* is quite interesting. You mention the use of rail-highway containers in 1949 between Chicago, St. Louis, Birmingham, Memphis, New Orleans and Columbus, Ga. and that the operation failed to attract attention of the shippers and receivers. As information, I am the designer of these units and put them in service, watching their operations daily. The rails increased their rates in Ex Parte 162-166-168 to the extent of creating a differential of about 38 per cent over the truck rates. As a result, the rail carriers lost this movement. It cannot be charged to the containers.

Briefly, in these tests we reduced the claims from 7½ a hundred pounds to almost zero; cut the overall expenses from $18 a ton to $11, and stepped up the delivering time in Chicago by 48 to 72 hours. Further, the "Trailerail" containers do not require any special railroad equipment—they fit any type standard flat car.

This method has untold possibilities for the rail carriers, and your article should be given serious consideration by all railroad officers.

W. C. McMURRY
General Manager,
Birmingham Traffic Association



The designer of this "Trailerail" container asserts that rate differential, not design, discouraged its use

The Rebuild Costs Not the Total

ST. LOUIS, MO.

TO THE EDITOR:

In the December 9 *Railway Age*, on pages 30 and 31, you feature an article titled "North Western Builds Diesel Rail Motor Cars," and in line 3 you state that the car was completed at a cost of $36,000. We direct your attention that this in fact is a "rebuild" job and your statement that this project was accomplished "at a cost of $36,000" is misleading. As a matter of fact, in paragraph 3 you state that this car was "converted from an existing gas-electric rail car."

Then, further along, in paragraph 6 of this article, you state that "the cast-steel trucks were taken off another motor car."

We bring this matter to your attention as we know it is not your policy to misrepresent facts and we believe that your article should have set forth that this project was a rebuild or conversion job and that the $36,000 expended was not the total cost of this diesel rail motor car, as your article could be construed.

EDWIN B. MEISSNER
President and General Manager,
St. Louis Car Company

GENERAL NEWS

I. C. C. Gets Railroad Freight-Rate Petition

Carriers want 6 per cent increase, effective immediately

In submitting to the Interstate Commerce Commission their petition for a six per cent increase in freight rates, the railroads also on January 16 announced that they would file on the 19th a motion for authority to make the proposed increase effective immediately on an interim basis. This request for interim relief pending final disposition of the petition would include a stipulation to the effect that the carriers would honor claims for refunds as to any increases not finally approved by the commission.

The railroad's plan to file the petition was announced in Chicago on January 5, as reported in *Railway Age* of January 15, page 238. The proposal, calculated to augment annual revenues by $470 million on the basis of estimated 1951 traffic, is bottomed generally on a contention that such additional revenue is required to offset increases in costs which have occurred since the latest general rate increase was authorized by the commission's Ex Parte 168 decision of August 2, 1949.

Supersedes Eastern Petition

The petitioning carriers, the petition says, are "substantially all Class I railroads. . . and many railroads of other classifications." The proposal thus superseded the petition for a four per cent increase which was filed December 1, 1950, by Official-territory railroads (see *Railway Age* of December 9, 1950, page 52). The commission announced on January 15 that this petition had been dismissed on the basis of advices to the effect that the petitioners there would be among parties to the new petition.

The general six per cent increase proposed by the latter would be subject to maximum increases of six cents per 100 lb. on fresh fruits, including citrus fruits, fresh vegetables, and melons; and to four cents per 100 lb. on sugar, and on lumber and articles listed in tariffs as taking lumber rates. Specific increases of 18 cents per net ton or 20 cents per gross ton, as rated, are proposed on coal. Where rail-water movements of coal include two rail hauls, the 18 or 20 cents would be the total increase on such movements.

"Because of compelling truck competition," the petition said, the New York, Chicago & St. Louis does not propose any increase in rates on bituminous coal from mines on its road in Ohio to various destinations in that state.

No increase is proposed in charges for storing iron ore at lower Great Lakes ports; nor in charges for handling iron ore at upper Great Lakes ports on shipments forwarded therefrom by water. Meanwhile, charges for handling iron ore at the lower lake ports would take the six per cent increase.

There would be no increase in wharfage, handling or tippling charges at South Atlantic, Florida, and Gulf of Mexico ports; nor in charges for handling, loading or unloading export, import, coastwise, or intercoastal traffic —when such charges do not affect the measure of the line-haul rate and are not in addition to the line-haul rate. Charges for loading or unloading livestock would not be increased, although charges for loading or unloading carload freight generally would take the proposed six per cent increase.

Charges for demurrage on freight cars would not be increased. And neither would allowances paid by railroads for drayage or other services performed by shippers or receivers of freight.

Meanwhile, the six per cent increase would apply to rates on milk and cream in passenger and freight service, and to charges for various other services, including protective service, c.o.d. service, switching, trap and ferry car services, crane service, diversion and reconsignment, operation of special freight trains, and movement of railway equipment on its own wheels.

Also taking the general percentage increase would be minimum charges, all-commodity rates, and line-haul rates on freight in truck bodies, trailers or semi-trailers on flat cars. While rates on import, export, coastwise, and intercoastal traffic, and joint rates with ocean, lake and inland waterways carriers, would take the six per cent increase initially, the petition says that the new rates would thereafter be revised to restore recognized differentials. Likewise, all class rates would be increased initially by six per cent, and the relationship of established classes to first class restored later.

Materials, Wages Higher

In asking the commission to institute an investigation into the adequacy of present freight rates and charges, the petition asserts that present rates are not producing a net railway operating income adequate to maintain the railroads "in such financial condition as will enable them to provide the transportation service required in the public interest." The annual-basis increase in costs of materials and supplies since July, 1949, the time of the final Ex Parte 168 decision, is put at $283,300,000. Settlement of wage cases involving operating employees on the

THE "TURQUOISE ROOM" is one of the two new dome-lounge cars built by the Pullman-Standard Car Manufacturing Company for the Atchison, Topeka & Santa Fe's new "Super Chief," scheduled to go into service on January 28. The cars were described on page 243 of last week's Railway Age

basis proposed by Dr. John R. Steelman, assistant to President Truman, would add another $138,535,000 to operating expenses, the petition also says.

Reference is also made to pending demands of the non-operating employees; but the petition's rate-increase proposal does not take that situation into account. "The estimates of operating expenses are based upon January 1, 1951, costs of operation as adjusted to reflect the Steelman settlement. . . with the operating groups," the petition explains. It adds that if expenses should be further increased, whether by rising prices or additional increases in wages, "it will be necessary to bring the change to the attention of the commission."

It is noted that the Steelman settlement has now been rejected by the "big four" brotherhoods, but the petition goes on to say "it is clear that the railroads will not receive more favorable terms than those which constitute the. . . Steelman proposal."

The petition's estimates, on the basis of present rates, put the 1950 net railway operating income at $968 million, and the prospective 1951 net at $827 million. These would be returns on net investment of 3.93 per cent and 3.26 per cent, respectively. With the proposed increase effective immediately, the 1951 net would become $1,058 million, a return of 4.17 per cent, according to the petition.

Arguing in support of its proposal, the petition asserts that new capital to carry out the railroads' improvement program can be raised "only if earnings are adequate." It is also noted that this program is being carried out in a high-cost period. "In terms of purchasing power," the petition says, "it takes over two dollars of net railway operating income today to equal one pre-war dollar of net railway operating income."

The proposed increases are called "just and reasonable," and it is asserted that they "will not result in a loss of traffic to an extent which will deprive petitioners of the benefit of a substantial increase in revenue." Since the increases would apply to intrastate as well as interstate traffic, the petition suggests that the I.C.C. invite the cooperation of the state commissions in any investigation which it may institute.

C.I.O. to Set Up Rail Union

The C. I. O., wich already claims to represent 70,000 employees on 23 railroads, is reported to have announced plans for an organizing drive among the country's approximately 1,000,000 non-operating railroad employees, most of whom are now represented by 15 unions affiliated with the A. F. of L.

The new C. I. O. union, to be called the United Railroad Workers of America, will be headed by John Green, formerly president of the C. I. O. Marine & Shipbuilding Workers. The purpose of the new union, C. I. O. officials have been quoted as saying, will be "to improve the lot" of "large numbers" of "unorganized" employees, "whose conditions have trailed those of other industrial workers" by "bringing the benefits of individual unionism to scores of thousands of non-operating employees."

George Harrison, president of the Brotherhood of Railway Clerks, one of the biggest of the non-operating unions to be challenged by the C. I. O. drive, is reported to have commented, "It is unfortunate that the C. I. O. movement should be launched at this time. But let 'em come." According to newspaper reports, the C. I. O. interest in "organizing" railroad employees results in part from recent passage by Congress of the "union shop" bill, of which Mr. Harrison was one of the leading proponents.

Subsidizing Is Federal Responsibility—Truman

Aids to transport "must" be continued, budget message says

Providing "basic facilities and services" and furnishing "necessary financial aid" were listed in President Truman's annual budget message among "responsibilities" which the federal government "must. . . continue to carry out" in the field of transportation. The message, which went to Congress on January 15, also urged Congress to authorize "without delay" the proposed St. Lawrence seaway and power project on which, the President said, "construction. . . should be started at the earliest possible date."

The defense program has attached "a new and special urgency" to the seaway and power project, the message continued. It added: "Besides the large amounts of additional electric power which the project would make available, it would also provide economical and safe access, through the seaway, to the large deposits of iron ore in Labrador and Quebec. As expanding requirements for steel bring us closer to the depletion of our high-grade domestic ore reserves, the importance of these nearby deposits will correspondingly increase."

This was the second Presidential call which the new Congress received for approval of the St. Lawrence project. In his annual economic report, which was submitted January 12, Mr. Truman said "we should start at once" on the project "so that imported iron ore can be shipped efficiently by water to the great steel producing centers of the Middle West." Resolutions to approve the United States-Canada agreement for construction of the project have already been introduced in the present Congress, similar resolutions which were pending before the previous Congress having died with its sine die adjournment on January 2.

Other features of the transportation discussion in the President's budget message were his recommendations for separation of subsidies paid to the air lines from air-mail pay, and for increased postal rates. These proposals were repeaters from the budget message submitted by the President a year ago, the previous Congress having failed to act on them.

Does Not Oppose Subsidy

As to the separation of subsidy from air-mail pay, Mr. Truman said in his present budget message that the subsidy portion should be paid by the Civil Aeronautics Board from funds appropriated specifically for that purpose. Meanwhile, the President did not oppose the subsidy. On the contrary, he advised that "federal financial assistance has been a major factor in the industry's rapid growth, and should be continued to the extent necessary for the sound development of civil aviation."

In recommending increased postal rates, the President noted that the postal deficit for the fiscal year ending June 30, 1952, is estimated at $521 million. And he pointed out that "no allowance is made in these estimates for possible future increases in mail transportation rates which may result from proceedings now pending before the Interstate Commerce Commission and the Civil Aeronautics Board." The proceeding before the I.C.C. is the railway mail-pay case.

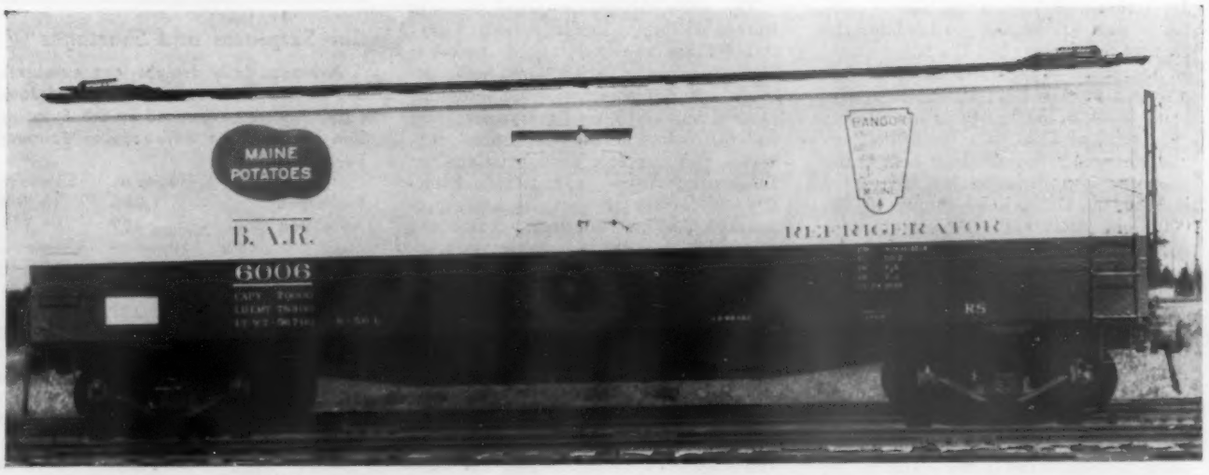
Of the country's transportation system in general, the President said that, although it is "already handling a high level of traffic," it "must be prepared for the even greater loads that would result from the full impact of mobilization." Mr. Truman went on to refer to recent orders for freight cars and other equipment which will increase the capacity of the carriers. "Equally important, however," he added, "will be steps that must be taken to obtain the maximum utilization of existing capacity."

The latter will depend "principally" upon the "cooperative efforts of carriers and shippers," the President continued, adding that the federal government "will provide leadership. . . and, where necessary, will impose controls to assure that all appropriate conservation measures are put into effect."

R.&H. Projects "Curtailed"

Of river and harbor projects, other than the St. Lawrence, the President said generally that they have been "substantially curtailed." As to the Civil Aeronautics Administration's present program for expanding the federal airway system, the new facilities now being installed "will permit the efficient handling of increased military traffic in the present emergency," Mr. Truman said. He also put it this way:

"In keeping with the general public works policy of this budget, construction of new facilities in the fiscal year 1952 will be limited to those projects which are most closely related to national security, or to civilian needs of



THIS BANGOR & AROOSTOOK REFRIGERATOR CAR is part of the road's $8,100,000 equipment modernization program, which includes purchase of 300 special box-heater cars and 500 refrigerator cars, and rebuilding an additional 500 reefers

an urgent nature. The same standards will be applied to grants for state and local airport construction."

Highway Proposals

As to highways, the President said that the government "must concentrate in the present emergency upon overcoming those road deficiencies which are most serious from the standpoint of national defense or essential civilian traffic." Following through on that basis, the Bureau of Public Roads will give "primary emphasis" to projects on the National System of Interstate Highways, the message also said.

In a section devoted to a discussion of "social security, welfare, and health," the message had a paragraph about funds proposed for the Railroad Retirement Board. There the President reiterated a recommendation he has made previously—that taxes collected under the Carriers' Taxing Act "be transferred to the Railroad Retirement fund as they are collected, rather than in advance of collection, in order to correct the present indefensible practice whereby the federal government pays interest on money that it advances to the fund."

The proposed fiscal 1952 appropriation for the R.R.B. as well as those for continued spending on transport facilities, and for the Interstate Commerce Commission and the National Mediation Board, are noted in another article herein. The entire budget set out proposed appropriations totaling $71.6 billion and estimated receipts totaling $55.1 billion, thus indicating a fiscal 1952 deficit of $16.5 billion. The estimated receipts make no allowance for the yield from increased taxes which the President plans to propose.

The new tax program will be recommended "shortly," the budget message said. It will propose "to increase taxes by very much more than they were increased by the last two major tax bills," the economic report revealed.

"The new tax increases," that report added, "must press harder upon every source of available revenue. Corporations should pay much higher taxes. Individuals should pay much higher taxes. Excise taxes should be higher and more extensive. Many loopholes in the tax laws should be closed."

Switchmen "Sick" in Birmingham Area

An epidemic of "sickness" among switchmen in the Birmingham area on the Southern, Louisville & Nashville and St. Louis-San Francisco starting the week of January 15 is estimated to have cut working forces in the yards there about fifty percent. Several roads in Chicago report an increase in absenteeism, while other roads in the switching district suspect some degree of deliberate slowdown—especially on the third trick. "You can't put your finger on it" said one source, "but it is my opinion that it is deliberate and organized." Other roads in Chicago report either normal operations or attribute any congestion to long term factors.

Budget Asks '52 Funds For Regulation, Subsidies

Proposed appropriations totaling $11,542,000 for the Interstate Commerce Commission, $1,198,000 for the National Mediation Board and National Railroad Adjustment Board, and $613,000,000 for the Railroad Retirement Board are included in the budget for the fiscal year ending June 30, 1952, which President Truman submitted to Congress on January 15. The budget also proposes fiscal 1952 funds of $459,711,000 for the Bureau of Public Roads to spend on highways, $221,140,000 for the rivers and harbors work of the Army's Corps of Engineers, and $205,200,000 for activities of the Civil Aeronautics Administration.

Since the Defense Transport Administration is financed out of allocations from defense funds made available to the President, the budget carries no proposed appropriation specifically earmarked for D.T.A. Figures in the budget show that the President has allocated to D.T.A. $110,000 of his fiscal 1951 defense fund totaling $30,000,000. A proposal to increase the latter by $10,000,000 will be submitted, while Presidential defense funds totaling $33,000,000 will be sought for fiscal 1952, the budget also revealed.

Although authorizing legislation would have to be enacted before the appropriation could be made, the President has tentatively budgeted $20 million "to initiate construction of the St. Lawrence seaway and power project." As noted elsewhere herein, the President's budget message and economic report both recommended prompt action by Congress to approve this project.

I.C.C. Budget Down

The $11,542,000 which the budget proposes for the I.C.C. compares with appropriations totaling $11,608,200 for the current fiscal year. Most of the funds provided for the commission are now lumped under "general expenses," for which the budget proposes $9,823,000, a decrease of $66,600 below the comparable appropriation of $9,889,600 for the current fiscal year. The largest of the "general expense" items is the cost of operating the Bureau of Motor Carriers, for which Congress earmarked $3,831,920 of the fiscal 1951 appropriation.

Outside the "general expense" grouping are I.C.C. appropriations for "railroad safety" and locomotive inspection. For these activities, the fiscal 1952 budget proposes $1,000,000 and $719,000 respectively. The former would be the same as the fiscal 1951 appropriation, while the latter would reflect an increase of $400 above the $718,600 which the Bureau of Locomotive Inspection has for the current fiscal year.

The $1,198,000 proposed for the

Mediation and Adjustment boards compares with $1,359,500 provided for the current fiscal year; but the latter would be increased $175,000 if Congress approves a proposed supplemental appropriation of $175,000 (to make a fiscal 1951 total of $325,000) for arbitration and emergency boards. That item in the proposed appropriation for fiscal 1952 is $150,000. Other items include $410,000 and $638,000, respectively, for N.M.B. and Adjustment Board "salaries and expenses."

The $613,000,000 proposed for the Railroad Retirement Board is an estimate of the tax revenue to be collected under the Carriers Taxing Act. As noted in this issue's review of the budget message, the President there recommended that this appropriation be put on that basis, i.e., that the tax revnues be transferred to the Railroad Retirement Fund as they are collected. Under the present plan, specific appropriations are made to the fund in anticipation of collections. Adjustments are subsequently made, but, meanwhile, amounts advanced by the government are invested for the benefit of the fund in government securities bearing interest. Under the President's proposal, the purchase of such securities would await collection of the payroll taxes, and thus the government would no longer be in the position of paying interest on money which it advances.

For the Retirement Board's administrative expenses under the Railroad Retirement Act during fiscal 1952, the budget estimates that $5,268,000 will be required. The administrative funds come out of the payroll-tax collections, the remainder of the estimated $613,000,000 going to the Railroad Retirement Account in the Treasury. The Retirement Board will also have an estimated $10,000,000 during fiscal 1952 for administration of the Railroad Unemployment Insurance Act. That act provides that taxes collected thereunder in an amount equal to 0.2 per cent of taxable payroll shall be available for administrative expenses.

Hot Ingots Overland By Rail in Canada

A saving of nearly two months of processing time was achieved by the recent shipment of a white-hot steel ingot from the Dominion Iron & Steel Co.'s Sydney, N.S., plant to the Trenton Steel Works, 200 miles away in Trenton, N.S.

The 30,000-lb. ingot, which was placed in a cast iron box insulated with premolded vermiculite, left Sydney late in the afternoon registering a temperature of 1,770 deg. Fahrenheit. It was received at Trenton the following morning, and when placed ready for working, still registered 1,575 deg.

Dominion steel men are reported to be of the opinion that the possibility of shipping hot ingots may prove to be one of the most important developments in the steel industry in recent years.

The $459,711,000 proposed for the Bureau of Public Roads includes $420,000,000 for the federal-aid, post-war highway program, $25,000,000 for forest roads, $5,211,925 for grade-crossing elimination and protection work, and $4,000,000 for the Inter-American highway. The bureau's appropriations for the current fiscal year include $385,000,000 for the post-war highway program, $22,500,000 for forest roads, and $4,600,000 for grade-crossing work.

The proposed fiscal 1952 appropriation for grade-crossing work, like the fiscal 1951 appropriation, would cash in on authorizations made for such work before legislation providing for the post-war highway program was enacted. When these authorizations are all taken up there will be no more separate appropriations for grade-crossing work, since the post-war highway program permits use for such work of up to 10 per cent of funds made available for highways.

Rivers and Harbors

The $221,140,000 proposed for rivers and harbors work of the Army engineers includes $220,240,000 for maintenance and improvement of existing works, and $900,000 to pay the federal government's share of the cost of altering railway bridges in connection with waterway projects. The fiscal 1951 appropriation for this bridge item was also $90,000, while the amount appropriated for maintenance and improvement of existing rivers and harbors works was $202,811,500.

The $205,200,000 proposed for the Civil Aeronautics Administration includes $54,000,000 for the federal-aid airport program, $37,150,000 for the establishment of air-navigation facilities, $9,375,000 for developmental work, and approximately $79,000,000 for operation of the federal airways system. C.A.A. appropriations for the current fiscal year have totaled $176,573,000, including $37,000,000 for the airport program, $27,500,000 for the establishment of air-navigation facilities, $7,375,000 for developmental work, and about $74,600,000 for operation of the federal airways system.

"Ops" Wage Case Back at White House

Chief executives of the "big four" operating brotherhoods were back in Washington, D. C., last week with an appointment to see Dr. John R. Steelman, assistant to President Truman, on January 18. The White House said that the union leaders had requested the appointment.

They had returned from the meetings of their general chairmen, at which the so-called Steelman formula for settling the pending wage and rules case had been rejected. The rejections came after the chief executives of the unions had agreed to the settlement proposal at White House conferences last month. (See *Railway Age* of January 15, page 238, and December 30, 1950, page 36.)

Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ended January 13 were announced by the Association of American Railroads on January 18 as follows:

	Surplus	Shortage
Plain Box	1,068	10,508
Auto Box	159	110
Total Box	1,227	10,618
Gondola	1,061	2,821
Hopper	231	3,865
Covered Hopper	0	0
Stock	2,095	0
Flat	745	504
Refrigerator	1,271	0
Other	246	154
	6,876	17,962

Meanwhile, further conferences were held between representatives of managment and the non-operating unions on the demand of those unions for a wage increase of 25 cents per hour. These conferences are also being held in Washington.

Some switchmen members of the Brotherhood of Railroad Trainmen on several but not all of the railroads in the Birmingham, Ala., district became "sick" on January 16, resulting in a partial tie-up of yard operations at that point. The "sick wave" disappeared and full-scale operations were resumed with the first trick on January 17, after a number of the afflicted switchmen had been officially advised that the injunction issued by the federal court in Chicago on December 13 against the "wildcat" strike of the B.R.T. switchmen then in progress was still in effect.

L. I. to Carry Out I.C.C. Safety Recommendation

Following receipt of necessary court authority, William H. Draper, Jr., trustee of the Long Island, has advised the Interstate Commerce Commission that his company will "carry out in full" safety recommendations made by the commission in its December 18, 1950, report on the November 22 wreck at Kew Gardens, N. Y., and additional safety recommendations made by the New York Public Service Commission and the Long Island Rail Road Commission. (See *Railway Age* of December 23, page 31, and January 15, page 247).

Freight Car Loadings

Loadings of revenue freight in the week ended January 13 totaled 783,025 cars, the Association of American Railroads announced on January 18. This was an increase of 120,581 cars, or 18.2 per cent, compared with the previous week (which included the New Year's holiday); an increase of 153,482 cars, or 24.4 per cent, compared with the corresponding week last year; and an increase of 49,160 cars, or 6.7

per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended January 6 totaled 662,444 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, January 6

District	1951	1950	1949
Eastern	118,566	95,181	135,783
Allegheny	141,451	105,283	153,061
Pocahontas	51,366	33,783	61,993
Southern	118,686	94,053	120,569
Northwestern	68,584	55,713	77,767
Central Western	106,453	78,149	107,808
Southwestern	57,138	43,591	64,526
Total Western Districts	232,175	177,453	250,101
Total All Roads	662,444	505,753	721,507
Commodities:			
Grain and grain products	47,794	33,163	47,034
Livestock	8,581	8,347	11,024
Coal	141,215	82,788	164,010
Coke	15,094	11,760	16,108
Forest products	37,814	28,484	35,193
Ore	14,417	10,229	12,701
Merchandise l.c.l.	66,087	61,576	88,750
Miscellaneous	331,442	269,406	346,687
January 6	662,444	505,753	721,507

Loadings for the week ended December 30, 1950, totaled 602,376 cars; the summary for that week follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, December 30, 1950

District	1950	1949	1948
Eastern	111,174	94,819	115,427
Allegheny	125,830	111,400	128,754
Pocahontas	45,364	31,297	40,594
Southern	100,896	81,110	92,508
Northwestern	62,856	53,754	63,966
Central Western	104,248	81,405	91,273
Southwestern	52,008	41,855	52,088
Total Western Districts	219,112	177,014	207,327
Total All Roads	602,376	495,640	584,610
Commodities:			
Grain and grain products	43,714	32,455	36,848
Livestock	6,516	6,244	8,114
Coal	129,080	90,171	123,602
Coke	15,641	11,906	15,131
Forest products	29,218	23,308	23,022
Ore	10,989	10,474	9,430
Merchandise l.c.l.	61,966	62,805	74,172
Miscellaneous	305,252	258,277	294,291
Dec. 30, 1950	602,376	495,640	584,610
Dec. 23, 1950	747,204	623,257	608,699
Dec. 16, 1950	772,902	639,728	754,552
Dec. 9, 1950	766,743	668,825	782,913
Dec. 2, 1950	739,922	693,923	804,172
Cumulative total 52 weeks	38,899,523	35,911,261	42,718,828

In Canada.—Car loadings for the week ended January 6 totaled 62,594 cars, compared with 54,396 cars for the previous week, and 54,480 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 6, 1951	62,594	30,181
January 7, 1950	54,480	24,207

Pressed Steel Car To Start Army Tank Depot

The Pressed Steel Car Company has received a contract from the Ordnance Corps of the U.S. Army calling for organization of a tank depot at the carbuilder's Hegewisch (Ill.) plant.

The contract, which will amount to more than $10,000,000, provides for establishment and operation of a plant to process combat vehicles of all types, which are to be built by other manufacturers, either for issue to troops or for storage. Pressed Steel Car did similar work at this plant during the last war.

The company said establishment of the depot will not interfere with present plans for producing the Unicel freight car.

I.C.C. Bureau Says 1950 Net May Exceed $1 Billion

It "seems quite possible" that the net railway operating income of the Class I line-haul railroads "may exceed the $1,002 million reported for the year 1948," the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission said in the latest issue of its "Monthly Comment." In the 20-year period, 1928-1948, the net railway operating income of the class I roads "has reached $1 billion in only five years, 1929, the war years 1942-1944, and 1948)," the bureau noted.

Meanwhile, the commission has received from the railroads their petition for a six per cent increase in freight rates, which includes estimates indicating that the 1950 net railway operating income will turn out to have been $968 million.

Knudson Says Railroads Must Get Needed Steel

Construction of at least 10,000 freight cars and 235 locomotives a month, commencing at the earliest possible time, together with heavy repairs on many others, was called for by James K. Knudson, director of defense transportation, in an address at the 44th annual dinner of the Traffic Club of Chicago on January 11.

In 1944, the peak period during the past war, the railroads performed approximately 737 billion ton-miles of transportation, Mr. Knudson pointed out. Estimates indicate that, in the absence of full-scale war, they will be called upon this year to perform approximately 687 billion ton-miles, and, in 1952, 753 billion ton-miles. In the face of these growing traffic demands, the present car supply is inadequate, he continued.

"I cannot overemphasize the importance," Mr. Knudson stated, "of the railroads and car builders getting the steel they require. Indeed, if the construction and repair program I have outlined is not carried out, our whole rearmament and civilian production effort could bog down. A railroad car or locomotive could be said to be as important in the scheme of things as a tank, or a gun, or a plane; because without transportation there would be no tanks, or guns, or planes.

"I can think of no more effective way of increasing the transportation capacity of this nation to meet rising traffic demands than by making steel available for construction and repair of railroad equipment. That is why I have recommended, and will continue to recommend to those in charge of steel allocation, that the railroads and car builders be given the steel they must have to enlarge and to keep their plant going."

Lee R. Cowles, president of the Traffic Club, presided at the dinner, which was marked by a record attendance of 1,400.

R.E.A. Proposes Rate Revision; New Increases

The Railway Express Agency has asked the Interstate Commerce Commission to approve a proposed upward revision in its rates and charges, including an increase in first-class rates of 57 cents per 100 pounds, and the establishment of a $2 minimum on all shipments.

The increases would range from approximately 3 per cent to as high as 106 per cent, depending upon the traffic involved. Present relationships of second-class rates to first-class would be maintained by increasing the former to 75 per cent of the increased first-class rates.

In explaining its need for the increased rates, the R.E.A. said its payments to the railroads in 1950 for services performed by them would fall short of meeting the cost of such services by at least $85,000,000. It added that the shortage in express revenues in 1951 "will substantially exceed" the 1950 shortage.

The proposed revision in R.E.A.'s

Safety Highlights
NEW YORK DIVISION, PENNSYLVANIA RAILROAD
KEEP FREEDOM SAFE
Facts No American Should Ever Forget
in USA
in RUSSIA
1 of every 4 people own a car
1 of every 252 people own a car
1 of every 3 people own a radio
1 of every 45 people own a radio
1 of every 5 people own a telephone
1 of every 188 people own a telephone

NATIONAL SAFETY is the theme of the January, 1951, issue of Safety Highlights, sent regularly to about 15,000 employees of the Pennsylvania's New York division. The cover (above), gives sharp emphasis to the disparity between living standards here and in the "workers' paradise"

THE CHICAGO & NORTH WESTERN has arranged to sell its present Oak Park (Ill.) suburban station and the surrounding plot of land to the Oak Park Savings & Loan Association, which will erect a new combination retail center and station building designed also to house the home office of the association. The association has announced that "ground breaking ceremonies will take place as soon as possible" after the Illinois Commerce Commission approves the transaction. The project is said to involve expenditure of over a million dollars. Initially, the present station will be torn down. In its place the association will build a block-long, two-story building of "ultra-modern" design which will incorporate an all-weather arcade of stores as well as new railroad station facilities and the association's offices. There will be a central concourse, flanked by stores, which will lead through the building to the waiting room and ticket offices, which will be housed on the second floor of the building at track level

rates and charges also includes an increase to one cent an ounce for third-class rates, subject to the $2 minimum. There would be a 25 per cent increase on commodity rates, other than foodstuffs, but subject to first-class rates as maximum. All l.c.l. commodity rates on foodstuffs would be cancelled.

Another proposal included in the agency's petition provides for stating package charges in multiples of five pounds, beginning with five pounds. In determining the rate on such packages the higher weight would apply. For example, on an 8-pound package the 10-pound charge would be applicable.

The R.E.A. petition also proposes an increase of 25 per cent in C.O.D. service charges, and in charges on returned empty containers. Certain valuation charges would take a 25 per cent increase, as would all rates and charges in the money classification section, except where such charges are determined by the use of first-class rates.

Under the petition, the increased first- and second-class rates would be used in determining carload rates for application to carload shipments subject to class rates.

D.T.A. Appointments

Paul L. Tietjen, of Willoughby, Ohio, has been appointed as a specialist on inland water transport with the Defense Transport Administration, and John P. Coakley of Birmingham, Ala., has been appointed consultant on inland waterways transport facilities and equipment.

Mr. Tietjen, who is director of water transportation for Jones & Laughlin Steel Corp., Pittsburgh, Pa., has been loaned to D.T.A. to assist in organizing and developing the Inland Water Transport Division. He has been associated with Great Lakes shipping for the past 15 years, and was appointed to his present position in 1948.

Mr. Coakley comes to the D.T.A. on leave of absence from his position as executive assistant of the Ingalls Shipbuilding Corporation. He will assist in formulation of a program for construction and repair of vessels of under 3,000 tons to be used on inland waterways.

I.C.C. Chairman Sees Big Transport Demand For 1951

A forecast for an "abnormal demand" in transportation during the coming year was made by Interstate Commerce Commission Chairman Splawn during an informal discussion with students at the Third Annual Institute of Industrial Transportation & Traffic Management on January 16 at American University, Washington, D.C.

Speaking at an evening meeting arranged by Dr. L. M. Homberger, director of the institute, and attended by students and guests, Chairman Splawn also said early estimates indicate that ton-miles in 1950 reached 980 billion. Of this total, the railroads accounted for an estimated 598 billion, the trucks 115 billion, water carriers 147 billion, and the pipelines 120 billion.

The I.C.C. chairman spoke on "The Volume of Postwar Freight Traffic." He said the railroad percentage of the traffic volume has been declining in recent years, but the "tremendous upsurge" in total ton-miles since 1939 has more than offset any such decline. Railroads moved about 61 per cent of the total in 1949, as compared to 64.3 per cent in 1939, he said.

Commenting on other types of transportation, Chairman Splawn said the volume of traffic moving by highway has risen "very impressively"—from 44 billion ton-miles in 1939 to 115 billion in 1950. He predicted an increase in the number of trucks in 1951 because the present prosperity of the trucking business will entice others.

Union Shop, Check-Off Bill Signed by President

President Truman on January 10 signed the bill, S.3295, which amends the Railway Labor Act to authorize the inclusion in labor-management agreements of provisions for a union shop and check-off of union dues. Congressional action on the measure was completed when it was passed by the House on January 1, the day before the eighty-first Congress adjourned sine die.

Western Pacific Dedicates Special Blood Bank Car

The Western Pacific has converted a former business car into a rolling blood bank and has turned the car over to the American Red Cross for use in collecting blood for the armed forces in cities and towns throughout the road's territory, much of which has no other facilities for blood procurement. The Red Cross received the car officially from the W.P. on January 10, during a ceremony at the Oakland (Cal.) station.

The converted car's four bedrooms have been made over into blood donor rooms, while the lounge serves as a reception room and the dining section as a canteen. The car bears the name "Charles O. Sweetwood" in honor of the first W.P. veteran to lose his life in the Korean conflict; with the railroad, First Sgt. Sweetwood had been assigned to maintain the car that now bears his name. After receiving the car from W.P. President F. B. Whitman, the Red Cross began immediately to process in it blood donors from those assembled for the presentation ceremony.

I.C.C. Approves Bulwinkle Pact of Water Carriers

The Bulwinkle-Act agreement establishing the Inland Water Carriers' Freight Association has been approved by Division 2 of the Interstate Commerce Commission, effective February 12, 1951. This association is composed of water carriers in the lower Mississippi River and Gulf areas.

Division 2 had withheld final approval of the agreement pending acceptance by the association of certain conditions calling for modifications of a relatively minor nature. (See *Railway Age* of August 19, 1950, page 50.)

Boshell Succeeds Williams

Edward O. Boshell has been elected chairman of the board and president of the Westinghouse Air Brake Company and its subsidiary, the Union Switch & Signal Co. He succeeds A. N. Williams, president of both companies since 1946, who has been elected vice-chairman of the board of the two organizations. Herbert A. May, vice-president of both companies, has been elected senior vice-president of both.

Mr. Boshell has been chairman of the board and president of the Standard Gas & Electric Co. of New York and of the Philadelphia Company of Pittsburgh since 1948.

The present order said the association notified the commission on December 5 that it had amended its agreement accordingly.

I.C.C. Sets New Hearings On "Jim Crow" Complaint

The Interstate Commerce Commission has cancelled the public hearings scheduled for January 24 in connection with the racial discrimination complaint filed by Lillie Perez. The hearings have been rescheduled for February 1, and will be held in New York City by I.C.C. Examiner E. L. Boisseree.

The complaint, which is directed against the Pennsylvania and the Seaboard Air Line, alleges that these roads violate the Interstate Commerce Act by practicing racial segregation on their joint through train, the "Silver Meteor," between New York and Tampa, Fla. (See *Railway Age* of September 23, 1950, page 42.)

RRs Should Get Government Encouragement—Franklin

The enormous effort of railroads to provide necessary service to meet demands of the national emergency and the domestic economy should be given every encouragement by governmental bodies, Walter S. Franklin, president of the Pennsylvania, said in Pittsburgh, Pa., on January 16. Mr. Franklin told the 11th annual "Man-of-the-Year" dinner of the Junior Chamber of Commerce that the railroad industry is advancing a vast program for additional equipment and improvements, with the ability to fill every defense need as it develops. The P.R.R. is spending $534,000,000 to reequip its lines, he explained, and other railroads are completing similar projects.

His company's expenditure, which required $162,500,000 cash, is "an indication of our confidence in the need for a proper preparation for domestic business and the national emergency," according to Mr. Franklin. Additional line and property improvements bring to over $600,000,000 the expenditures made by the Pennsylvania in less than four years, he added.

"To provide hundreds of millions of dollars without any government subsidies is a difficult task for one company," Mr. Franklin said. "The railroad industry operates on a very narrow margin of profit. It lives off a large volume at a small rate of return. I am sure everyone is familiar with the need for private industry to move forward and provide the necessary service, materials, and supplies to meet the present emergency. The railroads must be given every encouragement. It is of vital importance that governmental bodies recognize that there must be prompt increases in freight rates to meet increased costs and to keep the railroads in a healthy condition to furnish proper service to our industries and commerce, and to be ready when called upon for any national emergency such as we are now facing."

The Pennsylvania's president described the railroads as "in relatively good position" to handle their emergency job provided they get their share of materials and are permitted to adjust their prices to meet increases in wages and cost of materials, just as other industries have done.

Mr. Franklin showed concern over the railway labor dispute and the brotherhoods' turn-down of a three-year wage settlement arranged at the White House last December 21. He said the railroads were far from enthusiastic as to the terms and, pointing to the seriousness of the situation, with the non-operating unions also asking for an increase, said that an average advance of only one cent per hour per employee will cost the Pennsylvania $3,260,000 a year. "Since the end of World War II eastern railroads have faced some difficult years due to wage and price increases, smaller volume of business, and labor difficulties both within and without the industry," he said. "Labor disturbances during 1949 and the first six months of 1950 made it impossible to make any real earnings in either of those years. However, an average maintenance and improvement program has been continued. This program for new equipment, both passenger and freight, really started with deliveries of equipment in 1948. Since that time expenditures have been continuous and at increasing volume."

Car Supply Chief Concern Of Atlantic States Board

Car supply was the chief topic of discussion and the apparent main concern as the Atlantic States Shippers' Advisory Board met on January 10 and 11 at New York's Roosevelt Hotel. With loadings in the first quarter of 1951 expected to be 13.9 per cent above those of the first quarter of last year, railroad men and shippers alike asked that cars be loaded and unloaded promptly, and released in clean condition.

C. R. Megee, vice-chairman of the Car Service Division of the Association of American Railroads, told the members that, although he could not promise them 100 per cent of their car needs during the first quarter, he still thought they would receive a greater percentage of their needs than they had recently. Mr. Megee noted that there had been an increase of 25,000 serviceable cars in the past four months, and said that continued improvement could be expected. P. M. Shoemaker, chairman of the railroad contact committee and vice-president of the Delaware, Lackawanna & Western, noted that the roads in the board area had taken steps to improve car supply. They had, Mr. Shoemaker said, installed 18,000 new freight cars in 1950, had on order 52,000, and had

GAVELS, FASHIONED FROM A WALNUT TABLE ONCE USED BY JAMES J. HILL, were recently presented to four Great Northern men, each of whom is head of a national railroad organization: (Left to right), G. E. Anderson, general fuel supervisor (Railway Fuel & Traveling Engineers' Association); Cornell Halverson, general roadmaster, Lines East (Roadmasters & Maintenance of Way Association); R. C. Thayer, superintendent of telegraph (chairman, Communications Section, Association of American Railroads); John M. Budd, G.N. vice-president in charge of operations, who made the presentation; G.N. president F. J. Gavin; and H. S. Loeffler, assistant chief engineer (American Railway Engineering Association). The gavels were presented at a railway-sponsored luncheon held at St. Paul

"Help Wanted" Signs Go Up In Many Rail Centers

The immediate need by the railroads for skilled trades journeymen to speed the nation's car building and car and locomotive repair programs was publicized to the railway labor press by a statement from the Railroad Retirement Board on January 12. The board said that, as of December 15, its employment offices had on file some 2,100 orders for such workers and that the number has steadily increased since that time.

Most urgently needed, the board said, are blacksmiths, pipefitters, carmen, carpenters, electricians, sheet metal workers, machinists, and signalmen. The areas where help is needed include Chicago, Cleveland, Ohio, Baltimore, Md., Duluth, Minn., Dallas, Tex., Omaha, Neb., Des Moines, Iowa, Los Angeles, Cal., and Portland, Ore. To its statement, the board appended a detailed account of the help shortages by occupation and by location of the greatest number of openings. The board urged railroad workers who know of persons qualified to fill the various openings to "help the railroads and the country" by bringing the need to their attention.

reduced bad orders from 9.1 per cent to 7.4 per cent at the year's end. Railroad men particularly, said Mr. Shoemaker, were happy to see the reactivation of the car efficiency committees which had done so much to aid car supply in World War II.

The board's committee on carload transportation noted that there had been some improvement, while the committee on l.c.l. said there had been "no marked deterioration" in this service. The committee on loss and damage suggested that the carriers do something to make it economically feasible for shippers to use pallets, for through their use loss and damage would be cut. Members also were warned to be on the lookout for inferior quality fibre board containers. The committee noted further that in some sections of the country considerable success is being attained in preventing loss and damage through having the consignee write the shipper, telling him the condition in which a load arrives at destination. This frequently enables the shipper to take corrective action where packaging, loading or bracing practices are at fault.

Mr. Shoemaker asked the board's indulgence to talk on passenger business, which is not normally taken up at such meetings. Within the past few months, he said, the holidays have been bad-weather days. Consequently, many who otherwise would have used planes or automobiles for holiday travel went via rail. Sometimes they got inferior accommodations, and complained about them. Mr. Shoemaker told the shippers that if they wanted passenger service they had better patronize it more regularly. With today's high costs, he concluded, it is impossible for any railroad to keep enough stand-by equipment to handle such peak demands as those created when weather rules out planes or the family auto.

Speaker at the luncheon meeting of the board was George S. Rose, secretary of the American Iron & Steel Institute. Mr. Rose said that regardless of what happens in the way of defense needs for iron and steel, "steel companies can be relied upon to do more than their share toward maintaining and increasing the industrial strength of the United States." Mr. Rose noted that plans announced by the industry call for an expansion of 15 million tons in steel-making capacity in the three-year period beginning January, 1950. Thus, by the end of 1952, annual production should be more than 115 million tons. The expansion in the three-year period, the speaker said, will be almost as great as the entire annual steel-making capacity of Great Britain.

On January 11, the board held its annual elections, with the presidency going to W. W. Weller, eastern traffic manager, Weyerhaeuser Sales Company, Newark, N. J. R. E. Covey, traffic manager, Sylvania division, American Viscose Corporation, Fredericksburg, Va., is the new first vice-president, while C. B. Roeder, general traffic manager, American Home Foods, Inc., New York, became second vice-president. C. S. Decker, general traffic manager, Borden Company, New York, was elected general secretary. Mr. Shoemaker was reelected chairman of the railroad contact committee. Retiring board president, H. H. Pratt, general traffic manager, Crucible Steel Company of America, took over the chairmanship of the board's executive committee.

ORGANIZATIONS

Electrical Section Elects Officers

The Electrical Section, Engineering Division, Association of American Railroads, has announced its officers for 1951, including three new members of the Committee of Direction, elected for a three-year term.

Officers are: Chairman—H. F. Finnemore, chief electrical engineer, Canadian National, Montreal, Que.; vice-chairman—C. A. Williamson, electrical engineer, Texas & New Orleans, Houston, Tex.; secretary—N. D. Howard, Electrical Section, Engineering Division, A.A.R., Chicago; and assistant secretary—Frank McNellis, Electrical Section, Engineering Division, A.A.R., Chicago.

The Committee of Direction, in addition to Messrs. Finnemore and Williamson, includes L. S. Billau, electrical engineer, Baltimore & Ohio, Baltimore, Md.; S. R. Negley, electrical engineer, Reading, Philadelphia, Pa.; John Leisenring, electrical superintendent, Illinois Terminal, Springfield, Ill.; K. H. Gordon, assistant electrical engineer, Pennsylvania, Philadelphia; H. F. Brown, electrical engineer, New York, New Haven & Hartford, New Haven, Conn.; H. A. Hudson, signal and electrical superintendent, Southern, Cincinnati, Ohio; and P. B. Burley, superintendent of communication and electrical engineer, Illinois Central, Chicago.

Equipment and operation of the Canadian National's Montreal Terminal electrification will be described by the road's chief electrical engineer, H. F. Finnemore, before the **Central Electric Railfans Association** on January 26. The meeting, which is open to railroad personnel, will be held in the auditorium of the Western Society of Engineers at 84 East Randolph street, Chicago, at 7:30 p.m.

The **Chicago Regional Chapter** of the **Association of Interstate Commerce Commission Practitioners** will hold its next meeting on February 2, at 12:15 p.m. at the Traffic Club of Chicago. W. H. Schmidt, Jr., western editor of *Railway Age*, will discuss certain aspects of nationization in Great Britain which are related to transportation regulation.

Director George S. Douglass of the Bureau of Valuation, Interstate Commerce Commission, Washington, D. C., will be the guest speaker at a luncheon at the annual meeting of the **Western Association of Railway Tax Commissioners** at Chicago on February 13. The meeting is to be held at the Palmer House and will begin at 9:30 a.m.

The 44th annual dinner of the **Traffic Club of Washington,** D. C., will be held at the Statler Hotel in that city on February 7. The guest speaker will be Senator Johnson, Democrat of Colorado, who is chairman of the Senate committee on interstate and foreign commerce.

R. W. Brown, president of the Reading, has been elected chairman of the **Eastern Pennsylvania Enterprise Council** of the **Transportation Association of America.** The Eastern Pennsylvania Council is one of 236 similar groups being established by the T.A.A. throughout the country in connection with its national project for study of transportation problems.

The **Traffic Club of Pittsburgh, Pa.,** will hold its annual dinner on January 25.

Railroad Enthusiasts, New York Division, will hold their next meeting on January 24, at 8 p.m., in Room 5928, Grand Central Terminal. Griscom Bet-

tle, of the railway sales department of the Budd Company, will be guest speaker. "Introducing the RDC" will be the subject of his address; a movie "Budd on the Move," also will be shown.

SUPPLY TRADE

Frank W. Jarvis, president and director of the Fairport, Painesville & Eastern since 1944, has resigned to become president of the **Diamond Magnesium Company,** a subsidiary of the **Diamond Alkali Company.** Mr. Jarvis began his business career with the American Car Products Company, a division of the Koppers Company, at Follansbee, W. Va.; in 1932 he joined

Frank W. Jarvis

the sales department of Diamond Alkali at Pittsburgh, Pa. In 1938 he was appointed assistant manager of the carbon tetrachloride division. He resigned in 1943 to join the F.P.&E. management staff in Fairport Harbor, Ohio. Mr. Jarvis was promoted to vice-president in May, 1944, and five months later was elected president.

E. Preston Calvert, assistant director of public relations for the **Pullman-Standard Car Manufacturing Company,** has been promoted to director of public relations. Mr. Calvert joined Pullman-Standard in April, 1949, as assistant director of public

E. Preston Calvert

relations. He was previously associated with Carl Byoir & Associates, a public relations firm. **Hugh W. Foster** and **Paul Ackerman** have been appointed advertising manager and editor of employee publications, respectively.

H. M. McFarlane has been appointed sales manager of the **Cullen-Friestedt Company,** with headquarters at the firm's offices in Chicago. Mr.

H. M. McFarlane

McFarlane has been associated with the railway equipment and supply industry for many years, and is now the president of the National Railway Appliances Association.

John W. Belanger, of Schenectady, N. Y., and **Nicholas M. DuChemin,** of Lynnfield, Mass., both formerly assistant general managers in the apparatus department of the **General Electric Company,** have been appointed general managers of the department's large apparatus divisions and small

Otto Hikade, engineer with the General Railway Signal Company, Rochester, N.Y., who has been appointed sales engineer, with headquarters at Chicago

Wilbur C. Rice, consulting engineer with the Nathan Manufacturing Company, of New York, who has been appointed vice-president in charge of manufacturing, and a member of the board of trustees

apparatus divisions, respectively. Both will be responsible to **Henry V. Erben,** vice-president. The appointments mark an integration of the apparatus department into three basic units: Large apparatus divisions, small apparatus divisions, and marketing divisions. Marketing operations for all products of the department will con-

John W. Belanger

tinue under **Chester H. Lang,** company vice-president and department manager of marketing.

Mr. Belanger began his career with G. E. in August, 1917, as a student engineer on the company's test course at its Lynn, Mass., works. He held various positions in the arc welding and sales fields, becoming head of marine sales, Philadelphia district, in 1930. He was appointed assistant manager of the federal and marine divisions at Schenectady in 1940 and manager of those divisions in 1943. Mr. Belanger was appointed assistant sales manager of the apparatus department in 1945; manager of the turbine division in 1947, and assistant general manager of the department in 1949.

Mr. DuChemin joined G.E. in 1914 as an apprentice at the Lynn River

works. He served two years in the United States Navy during World War I and returned to the company in 1919 to work in the Lynn River works turbine department. He later was transferred to the West Lynn works, advancing to general superintendent in

Nicholas M. DuChemin

1923. In 1935 he was appointed assistant works manager; in 1942, acting manager, and in 1943 works manager. He was appointed manager of the meter and instrument divisions in 1947 and assistant general manager of the apparatus department in 1949.

As reported in the January 8 issue of *Railway Age*, by action of the board of directors of the **Maintenance Equipment Company,** Chicago, following the retirement on January 1 of **Thomas E. Rodman** as president, **Max K. Ruppert,** who has directed the executive policies of the company for the past several years, was elected

Max K. Ruppert

president. **Emmons Overmier,** vice-president in charge of engineering, was elected executive vice-president, and **Peter J. Wolf** was reelected secretary and treasurer. Mr. Wolf was also given the title and duties of sales manager and will have charge of sales and service of products manufactured by Maintenance Equipment.

Mr. Ruppert, a native of Grand Rapids, Mich., was graduated from the New Mexico Military Institute, after which he served one year there as instructor. He then went with the Chicago, Rock Island & Pacific as a chainman, later serving as rodman, ballast inspector and rail inspector. In June, 1922, Mr. Ruppert became associated with the P. & M. Company and was advanced to assistant general sales manager in 1926, assistant eastern manager in 1928, vice-president in

Emmons Overmier

1931, and president in 1943. He now holds the latter post as well as that of president of Maintenance Equipment.

Mr. Overmier was graduated in mechanical engineering from the University of Illinois in 1913, after which he

Peter J. Wolf

completed a year of post-graduate work there. He began his business career with the Packard Motor Car Company and later served with the Standard Oil Company of Indiana. He became associated with the Maintenance Equipment Company in 1921.

Mr. Wolf was born at Amsterdam, Holland, and came to this country in 1927. He obtained his basic education at Oak Park, Ill., and later attended Northwestern University. He began his business career with the Western Electric Company, serving in the engineering department. Prior to joining Maintenance Equipment in 1940, Mr. Wolf was engaged in general sales work. He was elected secretary and treasurer of the company in 1948.

Mr. Rodman, a native of Philadelphia, Pa., was graduated from the Uni-

Thomas E. Rodman

versity of Pennsylvania in 1906. Prior to joining the M.E. Company in 1928, he served successively as assistant to vice-president, Atlantic Refining Company; chief engineer and assistant general manager, Trinidad Lake Asphalt Company; partner, A. R. Brunker & Co.; vice-president, Atlantic Steel Castings; manager of sales, Eastern Steel Castings Company; and assistant to vice-president, Bradford Corporation.

Albert G. Moore, whose appointment as director of publicity of the **General Railway Signal Company** was announced in *Railway Age* of December 30, page 52, joined the company in 1911 as advertising manager,

Albert G. Moore

which position he held until his recent appointment. Mr. Moore's previous associations included three years with the Illinois Central as chief draftsman and office engineer, successively, and one year with the General Electric Company in engineering related to railway signaling. He left G.E. in 1911 to join General Railway Signal.

A. William Taff, whose appoint-

ment as advertising manager also was announced in *Railway Age* of December 30, joined General Railway Signal in 1929, soon after his arrival in the United States from Norfolk, England, where he was born. Mr. Taff worked in the test department while

A. William Taff

taking a cooperative course in electrical engineering and, after several years spent as a student engineer with the Boston & Maine, was transferred to the advertising department of General Railway Signal in 1935. In 1941 he was appointed assistant advertising manager, which position he held until his recent promotion, with the exception of time spent during World War II in test and service engineering work on B-29 Superfortress armament.

Irley E. Morrison has been promoted from field service engineer to sales engineer with the Bendix Radio Division of **Bendix Aviation Corporation** at Chicago. Mr. Morrison previously made his headquarters at the company's main plant in Baltimore, Md.

Charles L. Braunwarth has joined the staff of the **Ralph W. Payne Company** as sales representative, with headquarters at Washington, D. C. Mr. Braunwarth formerly was assistant sales manager for the Yale & Towne Manufacturing Co.

Andrew K. Kolar, district manager of the **Link-Belt Company** at Moline, Ill., has been appointed assistant sales manager for Pershing Road plant products, at Chicago. **Stuart T. Penick,** district engineer at Dallas, Tex., has beeen transferred to Moline, to suceeed Mr. Kolar.

The **Heywood-Wakefield Company,** Gardner, Mass., has announced the following changes in its transportation seating division: **Severin B. Hendrickson** has been appointed to the newly created position of manager of transportation seating in addition to his other duties at division headquarters; **E. Harry Reid** has been appointed assistant manager of the division; and **George E. Cornwall** has resigned as sales manager of the division, but will continue as New England sales representative for transportation seating. **Guy M. Ralph** has joined the sales staff at the New York offices of the company.

As reported in the December 30, 1950, *Railway Age*, **Ernest G. Doke** and **Joseph J. Murphy** have been appointed vice-presidents of the **MacLean-Fogg Lock Nut Company.** Mr. Doke was graduated from Purdue University in 1937, and was employed by the Chicago Hutchins Corporation and the U. S. Gypsum Company prior to his association with MacLean-Fogg. He

Ernest G. Doke

joined that company in February, 1940, as an engineer, and in April, 1943, became assistant to the president, which position he held at the time of his recent appointment.

Mr. Murphy was born in Chicago, and graduated from Dartmouth in 1925. Previous to joining MacLean-

Joseph J. Murphy

Fogg he was in the investment business and with J. W. Mortell Company. In 1943 he became associated with MacLean-Fogg as a salesman, being promoted to sales manager in 1947, in which capacity he was serving at the time of his latest appointment.

Frank J. Benko, John M. Benko and **Fred T. Grant** have been promoted from the service department to field sales-service representatives of the **Power Ballaster Products Division** of **Pullman-Standard Car Manufacturing Company.** They will handle both sales and service on specific accounts assigned them by the manager of the division.

OBITUARY

Gustave J. Slibeck, who was associated with the Pettibone Mulliken Corporation, at Chicago, in the sale of railway track equipment since 1918, died on January 9 at his home, at the age of 70.

CONSTRUCTION

P.R.R. to Spend $6½ Million On Philadelphia Project

Appropriation of $6,500,000 by the Pennsylvania to carry forward a major portion of its central city improvement program in Philadelphia, Pa., and to provide for removal of all trains from Broad Street station by summer of 1952, has been announced.

"Transfer of these trains to expanded facilities at Pennsylvania station, 30th street, will make possible in the railroad's program of progressive improvement the demolition of the 'Chinese wall' and the razing of old Broad Street station," E. W. Smith, vice-president, Eastern region, said. He added that demolition and construction work east of the Schuylkill river will "follow as rapidly as possible" so that city and state can carry forward the construction of Pennsylvania boulevard. Mr. Smith estimated completion of the entire program would cost the railroad more than $18,000,000.

Final steps in the entire program would be expansion of the present downtown suburban station to provide additional tracks and platforms, construction of a new facility for the Railway Express Agency and demolition of the "Chinese wall" and Broad Street station. The new $6,500,000 appropriation provides for construction of tracks and overhead electric power lines, extensive signaling and communications systems, operating and maintenance facilities and expansion of present parking accomodations, all in the 30th Street station area. Mr. Smith said progress would depend on availability of essential materials, all of which have been on order for several months.

C. of Pa. to Spend $3.5 Million on Allentown Yard

Directors of the Central of Pennsylvania have voted to enlarge and modernize the Allentown, Pa., freight yard at a cost of $3,500,000. When completed, the yard will be 3.4 mi. long with 56 tracks, several of them

capable of holding 150-car trains, with a capacity of 4,176 cars. The present yard has 46 tracks, none large enough for a 150-car train, with a capacity of 2,377 cars. Improvements will include a new interlocking plant, a new hump yard and car retarder control system, a new floodlight system for night use, extension of the yard's locomotive radio system, new car repair facilities, modernization and expansion of the yard's signal system and a complete loudspeaker communications system. Part of the construction costs will be met by $2,500,000 to be advanced by the parent Central of New Jersey from the $3,000,000 recently received from the Port of New York Authority for approximately 850 acres of land in the Newark-Elizabeth meadows in New Jersey (see *Railway Age* of December 23, 1950, page 48). Original plans had called for construction of a new yard in the New Jersey meadowlands and the C. of N.J. had spent over 20 years acquiring necessary property for the project. Those plans were abandoned and Allentown selected as the site for improved yard facilities when the Port Authority served notice it wanted most of the property for expansion of Newark Airport.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

3,326 Freight Cars Ordered In Dec.; 5,700 Delivered

Orders during December for 3,326 freight-train cars for domestic use, including 1,735 ordered from railroad shops, brought the total of such cars ordered last year to 156,481, the American Railway Car Institute and the Association of American Railroads have announced jointly. [The difference between this total and that reported on page 207 of last week's *Railway Age* is represented primarily by several car orders this magazine was requested not to list.] New freight-train cars delivered during December totaled 5,700, including 1,735 delivered by railroad shops, compared with 5,791 in November and 3,330 in December, 1949. Deliveries for the full year 1950 were 43,991. The backlog of cars on order on January 1, the announcement said, was 124,489, including 35,353 on order from railroad shops, compared with 126,870 cars on order on December 1, 1950, and 12,306 on January 1, 1950. The accompanying table lists by types all cars ordered and delivered in December and those on order on January 1.

Type	Ordered	Delivered	On Order Jan. 1
Box-Plain	2,260	3,097	48,570
Box-Auto	...	339	1,680
Flat	...	25	3,910
Gondola	632	939	29,009
Hopper	230	232	21,434
Covered Hopper	47	551	4,164
Refrigerator	...	20	6,261
Tank	103	274	7,694
Caboose	...	7	435
Other	54	216	1,332
Total	3,326	5,700	124,489

Deliveries of freight-train cars, the announcement added, are expected to increase gradually during the first quarter of 1951 and may reach the 10,000-a-month level by April or May. Those months are the first in which steel allotted by the National Production Authority for a 10,000-car program will begin to roll off assembly tracks as finished cars.

The **Bangor & Aroostook** has ordered 500 40-ton refrigerator cars from its own shops. Authorization to acquire these cars, at a cost of $4,500,000, was reported in *Railway Age* of December 30, 1950, page 54.

The **Chicago & Eastern Illinois** has ordered 500 50-ton box cars, 200 from the American Car & Foundry Co. and 300 from the road's Danville, Ill., shops.

The **Delaware, Lackawanna & Western** is inquiring for 500 to 1,000 steel hopper cars.

The **Ford Motor Company** has ordered 120 70-ton 40-ft. mill-type gondola cars from the Greenville Steel Car Company. This type of car—for handling hot billets in blast furnace and rolling mill service—was designed especially for Ford several years ago.

The **Southern Pacific** has ordered 1,500 50-ton box cars from its own shops.

The **Union Pacific** has ordered 500 40-ton stock cars and 500 70-ton covered hopper cars from its own shops. Inquiry for the hopper cars was reported in *Railway Age* of September 23, 1950, page 56.

SIGNALING

The **Missouri Pacific** has ordered equipment from the General Railway Signal Company for expansion of the present NX electric interlocking at Houston, Tex. The control machine, located in Tower 80, will be expanded to include 10 track indication lights, 12 entrance knobs, 12 exit buttons and 4 test keys for control of 4 switch machines and 12 signals. Included in this order are type B relays, model 5D switch machines, and types G and L color-light signals.

The **Union Pacific** has ordered from the Union Switch & Signal Co. material to install centralized traffic control on 75 mi. of single track between Marysville, Kan., and Menoka. The 5-ft. style C control machine will be installed at Marysville. In addition to the code equipment, the order includes style H-2 searchlight signals, N-2 dwarf signals, MC-1 motor car indicators, M-22A switch machines, SL-6A electric switch locks, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

FINANCIAL

Death of M.P. Revamp Plan Would End "Niggardliness"

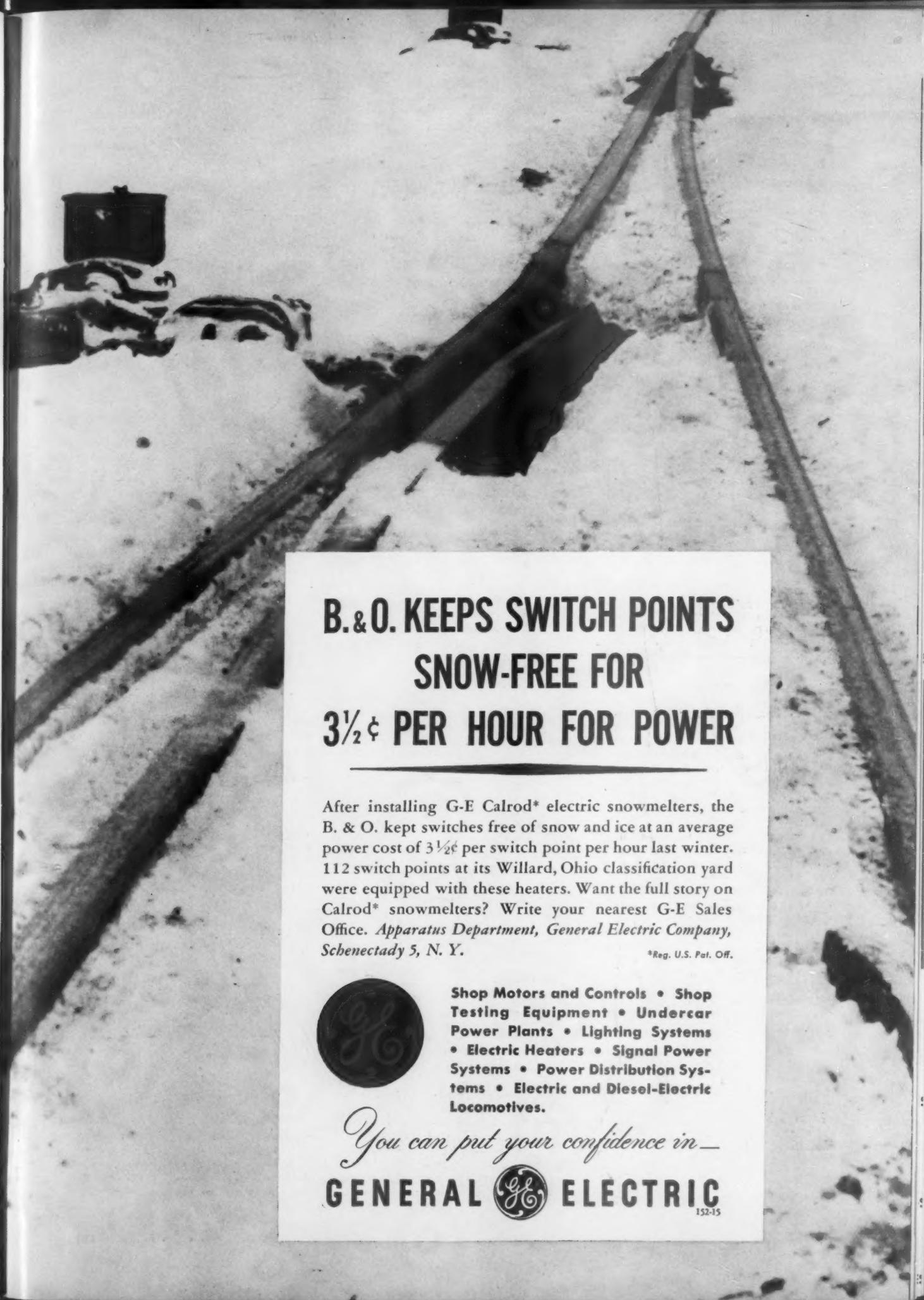
Once the reorganization plan for the Missouri Pacific System approved by the I.C.C. is "killed," there is a fair certainty that the commission would "never again be so niggardly" in subsequent reorganization proceedings for other railroads. This opinion was expressed by Charles Shipman, assistant to vice-chairman of Alleghany Corporation, in a "critique" of the Missouri Pacific plan presented to members of the Chicago Railroad Securities Club at a dinner meeting on January 5. As spokesman for the interest of Alleghany Corporation in the reorganization (Alleghany owns 440,000 shares of M.P. common stock) the speaker declared that "there is every indication" that the present I.C.C.-approved plan for the system will be rejected by most classes of security holders. Continued consideration of, and adherence to, the I.C.C. plan would entail almost endless procedure in the future. In the opinion of Alleghany, "no plan at all would be better for every class of security holder involved."

Mr. Shipman reviewed Alleghany's proposal for a revamping under the Mahaffie Act, with separate removal of the New Orleans, Texas & Mexico from bankruptcy by payment of its inter-company debt to the M.P., since there is no default on the former road's bonds. The Alleghany Corporation is proceeding in the belief that its plan would benefit all classes of security holders — not just stockholders. Admittedly, charges against the road would be greater under the Alleghany proposal than under the I.C.C. plan. According to the speaker, that result is obvious since, "to get more for everybody, you have to get a larger pie."

Mr. Shipman made much of tax considerations and charged that the capital structure proposed for the M.P. by the I.C.C. plan "simply means taking money out of the pockets of its owners and giving it to the tax collector." (The latest I.C.C. plan for the system was reviewed in *Railway Age* for August 20, 1949, page 67.)

Central Vermont.—*Acquisition.*—Division 4 of the I.C.C. has approved this road's application for authority to acquire control of the New London Northern by purchasing 75 per cent or

(*Continued on page* 47)



B.&O. KEEPS SWITCH POINTS SNOW-FREE FOR 3½¢ PER HOUR FOR POWER

After installing G-E Calrod* electric snowmelters, the B. & O. kept switches free of snow and ice at an average power cost of 3½¢ per switch point per hour last winter. 112 switch points at its Willard, Ohio classification yard were equipped with these heaters. Want the full story on Calrod* snowmelters? Write your nearest G-E Sales Office. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

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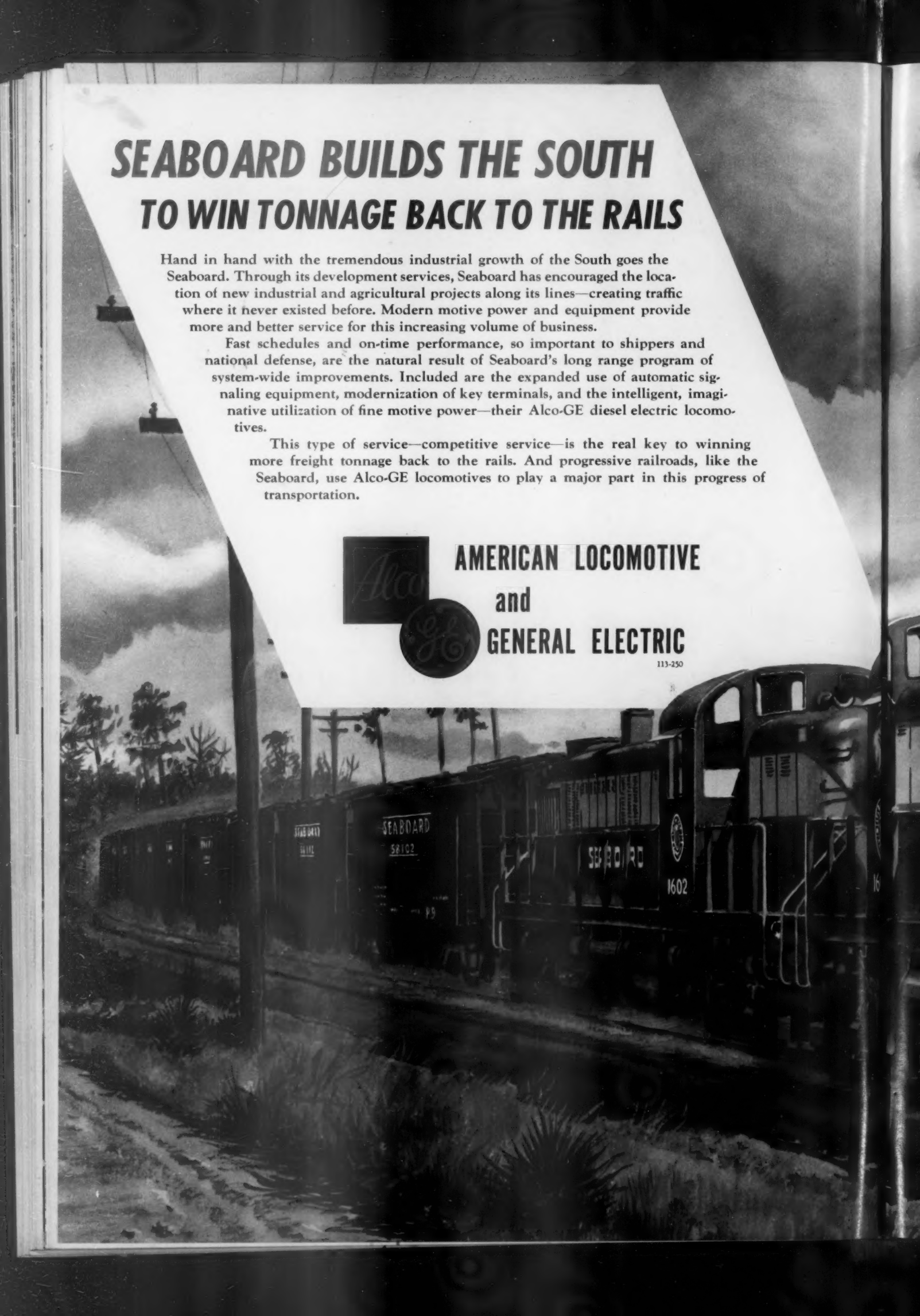

SEABOARD BUILDS THE SOUTH
TO WIN TONNAGE BACK TO THE RAILS

Hand in hand with the tremendous industrial growth of the South goes the Seaboard. Through its development services, Seaboard has encouraged the location of new industrial and agricultural projects along its lines—creating traffic where it never existed before. Modern motive power and equipment provide more and better service for this increasing volume of business.

Fast schedules and on-time performance, so important to shippers and national defense, are the natural result of Seaboard's long range program of system-wide improvements. Included are the expanded use of automatic signaling equipment, modernization of key terminals, and the intelligent, imaginative utilization of fine motive power—their Alco-GE diesel electric locomotives.

This type of service—competitive service—is the real key to winning more freight tonnage back to the rails. And progressive railroads, like the Seaboard, use Alco-GE locomotives to play a major part in this progress of transportation.

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1601

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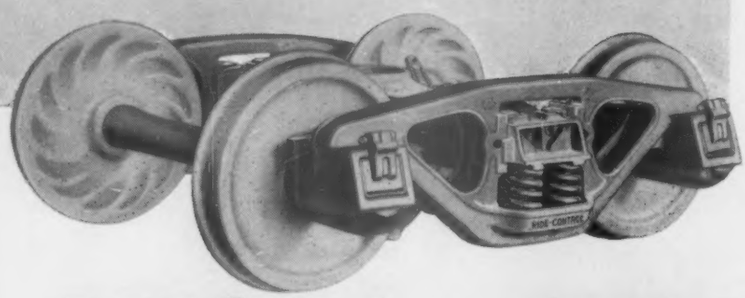

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CONSTANT FRICTION CONTROL
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Constant, uniform friction control requires constant, *uniform* pressure. And you get it in A.S.F. Ride-Control Trucks! Friction springs *aren't flexed at all* by up-and-down bolster movement.

These springs don't fatigue or take a permanent "set," because their length remains virtually *fixed*. And, with but a single job to do, they do it *exceedingly* well.

Supporting car weight and controlling spring movement are *independent* functions. That's why the A.S.F. Ride-Control Truck has *separate springs* for each of these purposes.

AMERICAN STEEL FOUNDRIES

MINT MARK OF ◯ FINE CAST STEEL

(*Continued from page* 42)
more of the latter's common stock. The C.V., a wholly owned subsidiary of the Canadian National, will operate the 131.7-mi. N.L.N. as lessee-owner. (See *Railway Age* of December 2, 1950, page 90.) Acquisition of 100 per cent of New London's stock would cost Central $2,400,000.

Railway Express Agency.—*New Directors.*—Robert S. MacFarlane, president of the Northern Pacific, and John B. Hyde, vice-president of the Southern, have been elected to this organization's board of directors. Mr. MacFarlane succeeds Charles E. Denney, former N. P. president, and Mr. Hyde succeeds Ernest E. Norris, president of the Southern.

New Securities

Application has been filed with the I.C.C. by:

CHICAGO, INDIANAPOLIS & LOUISVILLE.—To assume liabi.ity for $1,200,000 of equipment trust certificates to finance in part acquisition of 250 freight cars at an estimated total cost of $1,558,506. The equipment was listed in the application as follows:

Description and Builder	Estimated Unit Cost
100 50-ton steel box cars (General American Transportation Corp.)	$6,275.00
100 70-ton composite gondola cars (Thrall Car Manufacturing Co.)	6,522.56
50 50-ton flat cars (Greenville Steel Car Co.)	5,575.00

The certificates, to be dated March 1, would mature in 15 annual installments of $80,000 each, beginning March 1, 1952. They would bear interest at the annual rate of 2¾ per cent, and they have been sold, subject to commission approval, to Halsey, Stuart & Co., which submitted the most favorable bid—99.159. On that basis the net annual interest rate would be 2.855 per cent.

Division 4 of the I.C.C. has **authorized:**

NEW YORK CENTRAL.—To assume liability for $7,500,000 of equipment trust certificates to finance in part 66 diesel-electric locomotive units costing approximately $9,631,380. (See **Railway Age** of December 23, 1950, page 48.) The certificates, to be dated January 1, 1951, will mature in 15 annual installments of $500,000 each, beginning January 1, 1952. Division 4's report approved a selling price of 99.02 with interest at 2¾ per cent—the bid of Halsey, Stuart & Co. and 12 associates—which will make the average annual cost of the proceeds approximately 2.92 per cent. The certificates were reoffered to the public at prices yielding from 1.9 to 2.95 per cent, according to maturity.

NEW YORK, CHICAGO & ST. LOUIS.—To issue and sell 33,770 shares of $100 par common stock, to be offered to present stockholders at the rate of one share for each 10 shares held. The stock will be sold for $150 a share; at this price, total proceeds from its sale will amount to $5,065,500. Funds received through the sale will be used to reimburse the road's treasury for expenditures made for additions and betterments between January 1, 1945, and December 31, 1946. (See **Railway Age** of December 16, 1950, page 66, and January 15, page 254.)

WESTERN PACIFIC.—To issue and sell $22,000,000 of first and refunding mortgage series A bonds. Proceeds from their sale will be used to refund existing mortgage debt, totaling $16,113,300, and to reimburse the company treasury for the cost of additions and betterments made between January 1, 1946, and June 30, 1950. (See **Railway Age** of December 9, 1950, page 66.) The bonds, to be dated January 1, 1951, will mature January 1, 1981. Division 4 approved a selling price of 99.64, based on a 3⅛ per cent interest rate, which will make the average annual cost of the proceeds approximately 3.14 per cent. Winning bid for the issue was that of Union Securities Corporation and Glore, Forgan & Co., on behalf of themselves and 36 associates.

Dividends Declared

Chicago, Rock Island & Pacific.—common, 75¢, quarterly, payable March 31 to holders of record March 13.

Massawippi Valley.—$3, semiannual, payable August 1 to holders of record July 1.

Northern (New Hampshire).—$1.50, quarterly payable January 31 to holders of record January 11.

Security Price Averages

	Jan. 16	Last Week	Last Year
Average price of 20 representative railway stocks	58.37	55.79	41.93
Average price of 20 representative railway bonds	99.56	98.55	92.05

RAILWAY OFFICERS

EXECUTIVE

H. J. Walker, executive assistant of the SOUTHERN PACIFIC, has been advanced to assistant to the president, and will take over supervision of certain of the company's subsidiaries, become chairman of the system committee

H. J. Walker

on insurance, and assume other assigned duties, as reported in the December 16, 1950, *Railway Age.* Mr. Walker started service with the S. P. in 1917, and was advanced through various clerical positions in the company's New York offices, including the former S. P. Steamship Lines. He was transferred to the road's San Francisco general office as a statistician in 1932, and in January, 1941, became chief statisticion. He was appointed executive assistant in March, 1944.

C. H. Sauls, general manager of the Seaboard Air Line, has been appointed vice-president in charge of operations, whose headquarters will remain as before at Norfolk, Va.

James R. Thorne, assistant general manager of the Seaboard Air Line, has been promoted to the newly-created post of assistant vice-president of operations, with headquarters at Norfolk, Va.

O. B. Keister, Jr., has been elected president of the TENNESSEE, ALABAMA & GEORGIA. Mr. Keister was formerly superintendent of the SOUTHERN at Birmingham, Ala.

Vernon W. Foster, vice-president and general counsel of the ILLINOIS CENTRAL at Chicago, will retire on January 31, after nearly 53 years of service with the I.C.

J. E. Kusik, vice-president—accounting of the CHESAPEAKE & OHIO, at Cleveland, Ohio, has been appointed vice-president—finance, in recognition of the expansion of his responsibilities for the financial affairs of the company.

Frank B. Birthright, superintendent of the SOUTHERN SYSTEM at Charleston, S. C., has been appointed to the newly-created position of executive general agent, with the same headquarters, effective February 1.

FINANCIAL, LEGAL & ACCOUNTING

Kenneth F. Stone, general attorney of the NEW YORK CENTRAL SYSTEM, has been appointed also acting general counsel, in charge of the law, land and tax, and claim and medical departments. These duties had been under the jurisdiction of the late **Jacob Aronson,** vice-president and general counsel, whose death is reported elsewhere in this issue.

J. J. Anzalone, assistant vice-president of the CHESAPEAKE & OHIO at Cleveland, Ohio, has been appointed treasurer, and **T. H. Keelor,** assistant

secretary and assistant treasurer, has been appointed secretary and assistant treasurer. The appointments fill the positions occupied by **Henry F. Lohmeyer,** who retired on January 10, because of ill health, after 35 years of service with the C.&O. Mr. Anzalone was born at Chicago 61 years ago and went to Cleveland in 1922 as comptroller and treasurer of the Vaness Company and various subsidiary companies of the late O. P. and M. J.

J. J. Anzalone

Van Sweringen. He joined the C.&O. as assistant to the president in 1943 and was appointed assistant vice-president in 1946. Since May, 1938, he has been secretary and since October, 1941, secretary and vice-president of Alleghany Corporation, the investment company that controls the C.&O.

Mr. Keelor was born at Chicago 38 years ago and has been working in the office of the secretary and treasurer of the C.&O. at Cleveland since May, 1931. Starting as a messenger, he subsequently served as secretary, assistant

T. H. Keelor

chief clerk and chief clerk, before becoming assistant treasurer in 1947 and assistant secretary and assistant treasurer in 1948.

Mr. Lohmeyer was born in Brooklyn, N. Y., 62 years ago and entered railroad service in 1906 as messenger in the New York executive offices of the Missouri-Kansas-Texas. He joined the C.&O. in 1915 as chief clerk to the secretary, and was appointed assistant secretary two years later, transferring to Cleveland in 1923. In May, 1933, Mr. Lohmeyer was named secretary and treasurer of the C.&O. and Pere Marquette, now merged with the C.&O.

P. L. Solether, vice-president of the DULUTH, SOUTH SHORE & ATLANTIC at Minneapolis, Minn., has been elected also secretary. **C. H. Bender,** treasurer at Minneapolis, has been elected also assistant secretary.

The title of **J. G. Dugan,** real estate and tax agent of the TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS, has been changed to real estate and tax officer.

OPERATING

J. F. Cooper has been appointed general manager of the NORTHERN ALBERTA (operated jointly by the CANADIAN PACIFIC and the CANADIAN NATIONAL), with headquarters at Edmonton, Alta., succeeding **J. M. MacArthur,** who has retired.

Karl C. Shults, superintendent of the SOUTHERN at Selma, Ala., has been transferred in the same capacity to Birmingham, Ala., succeeding **O. B. Keister, Jr.,** who has been elected president of the TENNESSEE, ALABAMA & GEORGIA, as reported elsewhere in this issue. **James G. Beard,** trainmaster at Danville, Ky., succeeds Mr. Shults.

G. L. Phillips, former superintendent of the CANADIAN PACIFIC'S Vancouver division, has been transferred to the Kootenay division in the same capacity, with headquarters at Nelson, B. C.

R. L. Clayton, former assistant to general manager, Lines East of the Missouri river, of the CHICAGO, BURLINGTON & QUINCY, has been appointed assistant superintendent of the Chicago division, with headquarters remaining at Chicago.

D. E. Walker, trainmaster of the MISSOURI PACIFIC'S Memphis division at Wynne, Ark., has been appointed trainmaster of all districts of the Missouri division, with headquarters at Poplar Bluff, Mo. He succeeds **J. A. Greig,** who has been granted sick leave. Succeeding Mr. Walker is **J. C. Love. F. M. Crump** becomes trainmaster at Harlingen, Tex., and **B. S. Greer,** trainmaster of the St. Louis Terminal division at St. Louis, Mo.

J. W. Stuckey has been appointed trainmaster of the Chicago Terminals division of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Chicago.

J. J. Bowles, assistant trainmaster of the BOSTON & ALBANY at Beacon Park, Allston, Mass., has been appointed trainmaster. **R. V. Brinkworth,** trainmaster at Pittsfield, Mass., has been transferred to the Hudson and Mohawk divisions of the NEW YORK CENTRAL at Albany, N. Y. **F. R. Stafford,** trainmaster of the N.Y.C. at Albany, has been transferred to the Rochester division. **S. M. Dwyer** has been appointed office assistant to general manager of the N.Y.C. at Syracuse, N. Y.

J. N. Broetzman, assistant general manager of the Seaboard Air Line, has been promoted to general superintendent, a newly created post, with headquarters as before at Savannah, Ga.

James J. Stockard, district superintendent of the ATLANTIC COAST LINE at Manchester, Ga., has been appointed acting general superintendent of the Western division at Atlanta, Ga. **W. A. Tennant** has been appointed acting trainmaster of the Birmingham district at Manchester, succeeding **M. L. Chastain,** who has been appointed acting superintendent of the Birmingham and Brunswick districts, with the same headquarters.

G. R. P. Graham, superintendent of the Port Arthur division of the CANADIAN NATIONAL, has been promoted to general superintendent of the Alberta division, with headquarters at Edmonton, Alta. He succeeds **J. F. Cooper,** whose appointment as general manager of the NORTHERN ALBERTA appears elsewhere in this issue. Succeeding Mr. Graham is **R. A. Craven,** superintendent of transportation for the Manitoba district. **Fred Musgrave,** transportation assistant at Winnipeg, Man., succeeds Mr. Craven.

Edward T. Reidy, secretary of the CHICAGO GREAT WESTERN, has been appointed general manager, with headquarters at Chicago, succeeding to the duties of the late **Samuel M. Golden,** whose death was reported in the January 8 *Railway Age*. The office of vice-president—operations, which Mr. Golden held at the time of his death, has been abolished. **A. A. Freiberger** has been appointed general superintendent, with headquarters at Oelwein, Iowa,

and **B. A. Mosher,** assistant to vice-president—operations, has been made assistant to general manager, with headquarters as before at Chicago.

The New Orleans division of the RAILWAY EXPRESS AGENCY, with headquarters at New Orleans, La., has been combined with the Mississippi division. New Orleans, Gretna, La., and Harvey will hereafter be under the jurisdiction of **Fred Howell,** superintendent, Mississippi division, with headquarters at Memphis, Tenn.

J. H. Sweet has been appointed superintendent of the ROCK ISLAND SOUTHERN. He formerly served as superintendent of that road and also as vice-president and general manager of the Mississippi & Alabama.

TRAFFIC

The ST. LOUIS-SAN FRANCISCO has opened a new traffic office at Salt Lake City, Utah. **W. C. Prather,** traffic representative for the Frisco at Denver, Colo., has been appointed general agent in charge.

G. K. Reid, general freight agent (rates) of the MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE at Minneapolis, Minn., has been appointed assistant freight traffic manager (rates and divisions) at that point. **H. J. McKenna,** assistant general freight agent (rates) at Minneapolis, has been promoted to general freight agent (rates and divisions) there. Mr. Reid was born on August 18, 1889, at Minneapolis, and entered railroad service in February, 1907, as an office boy for the general superintendent of the Soo Line in his native city. He served in clerical capacities until 1909, when he was transferred to the freight traffic department as a clerk, becoming chief of the divisions bureau in 1936. Two years later he was advanced to assistant general freight agent, and in January, 1945, was promoted to general freight agent.

Mr. McKenna was born on August 19, 1906, at St. Paul, Minn., and began his railroad career in July, 1922, as a clerk in the freight traffic department of the Soo Line at Minneapolis. After holding various junior and senior clerkships, in July, 1941, he was appointed commerce clerk, and in November, 1942, chief clerk to freight traffic manager. Mr. McKenna became assistant general freight agent in January, 1945.

Charles M. Hazlehurst, assistant general industrial agent of the SEABOARD AIR LINE, has been promoted to a newly-created post of general industrial agent, with headquarters as before at Norfolk, Va. The position of assistant general industrial agent at Norfolk has been abolished.

Raymond M. Young, division freight agent of the BOSTON & MAINE at Troy, N. Y., has been promoted to general west coast agent at San Francisco, Cal., succeeding **Tracy Cummings,** who died on November 28, 1950. **G. A. Gerhard,** commercial agent at Chicago, has been appointed general agent at St. Louis, Mo., succeeding **Grover C. Aldrich,** who retired on December 31, 1950. **Harold J. Lee,** division freight agent at Concord, N. H., has been transferred to Worcester, Mass., to succeed **James N. Gall,** who also retired on December 31. **Francis H. Willard,** traffic representative at Concord, succeeds Mr. Lee as division freight agent. **Edward T. Carney,** traffic representative at Detroit, Mich., has been appointed division freight agent at Troy, replacing Mr. Young.

Effective January 16, 12 traffic officers of the CHICAGO & NORTH WESTERN and one of the CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA became officers of the system encompassing both roads. The North Western System field organization has been divided into six regions, plus the Omaha line agencies, with each area under the jurisdiction of a separate traffic manager. This was done to give the agencies closer supervision and greater assistance in solicitation. **T. L. Norton,** traffic manager—sales of the North Western, has been appointed assistant general traffic manager of the system, with jurisdiction over sales and service. His headquarters are at Chicago. In addition, the following appointments have been made: **R. C. Stubbs,** freight traffic manager (sales) of the North Western, as freight traffic manager (sales) for the system, with headquarters at Chicago and supervision over principal North Western on-line agencies; **E. H. Richards,** freight traffic manager of the C. St. P. M. & O., as freight traffic manager, system, at St. Paul, Minn., with supervision over on-line agencies of the Omaha line; **C. A. Miller,** eastern traffic manager of the North Western, to the same position for the system, with headquarters at New York and supervision of eastern agencies; **F. T. Lewis,** western traffic manager of the North Western at San Francisco, Cal., to the same post for the system at that point, with supervision of west coast agencies; and **G. A. Langworthy,** traffic manager of the North Western at Omaha, Neb., to system traffic manager there, supervising agencies in the Omaha to Rocky Mountain region. **V. M. Weger,** assistant general freight agent, **C. D. Cook,** general livestock agent, **J. R. Clyde,** general perishable agent, and **S. E. Gregory,** general coal agent, have become system officers, with headquarters at Chicago. **H. P. Dickson,** general agent for the North Western at Pittsburgh, Pa., has become traffic manager—system at Chicago, with supervision over central district agencies, and **I. S. Olsen,** general agent at St. Louis, Mo., traffic manager—system at that point, supervising southern and western agencies. **F. H. Tribbey,** division freight and passenger agent at Sioux City, Iowa, has become freight traffic manager—service for the system, at Chicago.

W. H. Marshall has been appointed industrial agent of the DELAWARE & HUDSON at Albany, N. Y.

Hiram T. Askew, general passenger agent of the CHESAPEAKE & OHIO at Richmond, Va., has been appointed passenger traffic manager at Cleveland, Ohio. Mr. Askew was born at Charleston, S. C., on November 3, 1906, and entered the service of the C. & O. as a stenographer-clerk at the Richmond shops in 1925. He transferred to the passenger traffic department in 1927 and served in various capacities until

Hiram T. Askew

1937, when he became secretary to passenger traffic manager at Richmond. In 1946 Mr. Askew was appointed chief clerk to passenger traffic manager and later that year became assistant to general passenger agent. In 1947 he was appointed assistant general passenger agent at Richmond and later that year became general passenger agent.

R. H. Burgin has been appointed general agent of the CHESAPEAKE & OHIO at Cincinnati, Ohio. He was formerly Florida agent, at Jacksonville, Fla.

Two new traffic offices will be opened by the ST. LOUIS-SAN FRANCISCO at Davenport, Iowa, and El Paso, Tex., as soon as remodeling of quarters is completed. **W. E. Miller,** former traffic representative at St. Louis, Mo., who has been with the Frisco since 1913 and who has previously handled traffic matters for the road in the Davenport area, has been named general agent in charge of the Davenport office, Room 1012, Kahl building. **B. L. Morgan,** former traffic representative at Dallas, Tex., has been appointed general agent in charge of the El Paso office, Room 406, Basset Tower.

George A. Leu, assistant traffic manager of the TOLEDO, PEORIA & WESTERN at Chicago, has been appointed traffic manager in charge of the newly-opened office at 1638 Rail-

way Exchange building, St. Louis, Mo. He is succeeded by **James J. Craig,** general agent at Peoria, Ill.

MECHANICAL

John E. McLeod, superintendent motive power of the CHESAPEAKE & OHIO, has been appointed chief mechanical officer, with headquarters as before at Richmond, Va., succeeding **C. B. Hitch,** retired. Mr. McLeod was born at Rockville, Conn., 56 years ago. While attending McGill University at Montreal, Que., where he took a special course in railroad transportation, he worked summers as a special apprentice for the Canadian Pacific. He

John E. McLeod

also worked five months as a locomotive fireman for the New York, New Haven & Hartford before becoming yard clerk for the New York, Chicago & St. Louis in February, 1918. After service in the United States Army Medical Corps during World War I, Mr. McLeod rejoined the N.Y.C.& St.L. as special apprentice at Stony Island, Ill., and worked his way up to general roundhouse foreman in February, 1924. Since joining the C.&O. as mechanical inspector at Huntington, W. Va., in September, 1933, he has also been assistant master mechanic at Stevens, Ky., and Peru, Ind. and master mechanic at Columbus, Ohio. Mr. McLeod was appointed superintendent motive power at Richmond on January 1, 1949, which position he held until his recent appointment as chief mechanical officer.

Henry P. MacDonald, chief draftsman of the LEHIGH VALLEY, has been appointed mechanical engineer, with headquarters as bef re at Sayre, Pa., succeeding **Henry L. Bonstein,** who has retired after 50 years of service with that road. Mr. MacDonald was born at Newton, N. J., and entered the service of the L.V. at South Easton, Pa., as a machinist apprentice in 1923. He later served as draftsman at Bethlehem, Pa., and Sayre and was promoted to chief draftsman at the latter point on April 1, 1948.

Mr. Bonstein spent his entire career with the L.V., beginning at South Easton as a draftsman in the engineering department. He was promoted to chief draftsman before becoming mechanical engineer in 1938. Mr. Bonstein subsequently supervised the L.V. maintenance of equipment department and was responsible for the designing of all equipment.

E. R. Hauer, chief mechanical engineer of the CHESAPEAKE & OHIO SYSTEM at Cleveland, Ohio, has been appointed assistant superintendent motive power—engineering at Richmond, Va. Mr. Hauser's former position has been abolished.

ENGINEERING & SIGNALING

W. R. Birt, superintendent of telegraph of the SOUTHERN PACIFIC, with headquarters at San Francisco, Cal., will retire from active duty on February 1. A photograph and biographical sketch of Mr. Birt appeared in the September 2, 1950, *Railway Age* in connection with his promotion to superintendent of telegraph. Succeeding Mr. Birt is **A. E. DeMattei,** assistant superintendent of telegraph at San Francisco.

G. G. Amory, office engineer of the CHICAGO & WESTERN INDIANA and the BELT RAILWAY OF CHICAGO, has been promoted to engineer maintenance of way, with headquarters remaining at Dearborn station, Chicago, succeeding **V. V. Holmberg,** who has resigned. **D. E. Perrine** succeeds Mr. Amory.

L. M. Poiteven, assistant engineer of the Laurentian division of the CANADIAN NATIONAL, has been appointed engineer of that division at Quebec, Que. **H. C. Greensides,** principal assistant architect, has been appointed assistant chief architect at Montreal, Que.

OBITUARY

Albert Ralph Spangenberg, district passenger agent of the MISSOURI PACIFIC LINES at Cincinnati, Ohio, died recently at Washington Court House, Ohio, following a heart attack.

Roy B. Kinkaid, assistant freight traffic manager of the BALTIMORE & OHIO, at Chicago, whose death was reported in *Railway Age* December 23, 1950, was born on April 26, 1884, at Beulah, Kan., and started his railroad career in 1898 as a clerk in the accounting department of the Indiana, Illinois & Iowa (now New York Central) at Kankakee, Ill. Subsequently he served in the accounting departments of the Chicago, Rock Island & Pacific, the Southern Indiana (now Chicago, Milwaukee, St. Paul & Pacific), the Gulf, Colorado & Santa Fe, and the Cincinnati, Hamilton & Dayton (now Baltimore & Ohio). In 1906 he became rate clerk in the traffic department of the Chicago, Cincinnati & Louisville (now Chesapeake & Ohio), later serving the Pere Marquette (now P. M. district, C. & O.), the Illinois Central, the Central Freight Association, the Northern Michigan Transportation Company and the Atchison, Topeka & Santa Fe. In 1910 he went with the Lake Erie & Western (now New York, Chicago & St. Louis) as a clerk in its general freight office at Indianapolis, Ind., subsequently becoming chief clerk of its tariff bureau. Mr. Kinkaid joined the Cincinnati, Indianapolis & Western at Indianapolis in 1915 as chief of its tariff bureau, later being advanced to assistant general freight agent and general freight agent. When the B. & O. absorbed the C. I. & W. in 1927 he was appointed assistant general freight agent at Cincinnati, and in 1932 was promoted to general freight agent at Chicago. He became assistant freight traffic manager at that point in 1947.

William J. Wilkins, late vice-president of the SOUTHERN SYSTEM and resident executive officer at Cincinnati, Ohio, whose death was reported in the January 15 *Railway Age,* was born at Roanoke, Va., on October 22, 1898. He attended New York University, and joined the Southern in 1926 as a student clerk in the traffic department at Washington, D. C. Mr. Wilkins was promoted to freight traffic representative at New York in 1927, and subsequently served there as commercial agent and as district freight and pas-

William J. Wilkins

senger agent. He was transferred to St. Louis, Mo., in 1936, and was appointed assistant freight traffic manager at Memphis, Tenn., in 1939. In the following year he returned to New York as eastern traffic manager, being promoted to western traffic manager at St. Louis in 1943. Mr. Wilkins was further advanced in January, 1944, to freight traffic manager at Cincinnati. He became vice-president of the Cincinnati, New Orleans & Texas Pacific (part of the Southern System) at that point in January, 1949, and has served as vice-president of the Southern System since December, 1949.

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SHOPPED FOR HOURS...
not days

Today it is obsolete to remove the trucks or wheels from the unit for truing. Within an hour the STANDARD WHEEL TRUING MACHINE *will restore contour, equal diameter and concentricity to both wheels of a pair simultaneously.*

Standard

RAILWAY EQUIPMENT MANUFACTURING COMPANY

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THE WORLD'S LARGEST FABRICATOR OF RAILWAY CAR SPECIALTIES

OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

Compiled from 127 monthly reports of revenues and expenses representing 131 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF OCTOBER 1950 AND 1949

Item	United States		Eastern District		Southern District		Western District	
	1950	1949	1950	1949	1950	1949	1950	1949
Miles of road operated at close of month	226,264	219,659	53,338	53,431	46,037	46,017	126,889	120,211
Revenues:								
Freight	$784,544,181	$535,201,874	$280,229,030	$178,717,292	$154,311,073	$97,275,384	$350,004,078	$259,209,198
Passenger	66,270,934	60,993,454	35,442,129	33,502,153	9,170,806	8,436,796	21,657,999	19,054,505
Mail	28,737,368	18,928,384	10,368,367	6,867,863	5,691,116	3,556,187	12,677,885	8,504,334
Express	8,404,143	7,055,120	3,324,926	2,389,209	1,353,320	1,144,713	3,725,897	3,521,198
All other operating revenues	37,426,608	27,067,567	16,639,878	11,768,876	5,757,622	4,259,290	15,029,108	11,039,401
Railway operating revenues	925,383,234	649,246,399	346,004,330	233,245,393	176,283,937	114,672,370	403,094,967	301,328,636
Expenses:								
Maintenance of way and structures	118,353,867	94,202,819	45,016,081	30,615,003	24,240,996	21,640,283	49,096,790	41,947,533
Depreciation	10,947,606	10,448,552	4,575,893	4,476,864	1,985,687	1,867,118	4,386,026	4,104,570
Retirements	2,095,104	1,570,174	954,004	205,817	299,350	319,303	841,750	1,045,054
Deferred maintenance	*61,936	*181,432	*525	.....	*5,168	*90,349	*56,243	*91,083
Amortization of defense projects	145,210	149,441	15,841	15,645	43,930	44,823	85,439	88,973
Equalization	*2,265,182	3,110,978	*1,435,601	1,882,762	*1,247,587	*63,963	418,006	1,292,179
All other	107,493,065	79,105,106	40,906,469	24,033,915	23,164,784	19,563,351	43,421,812	35,507,840
Maintenance of equipment	153,696,590	116,635,792	66,099,564	45,542,079	28,637,335	22,370,124	58,959,691	48,723,589
Depreciation	25,525,624	23,616,381	9,545,733	9,287,682	5,641,926	5,375,060	10,337,965	8,953,639
Retirements	*146,883	16,377	*14,296	*6,589	*14,824	*9,709	*117,763	32,675
Deferred maintenance and major repairs	*183,248	*63,096	*82,166	*26,760	*9,732	*6,758	*91,350	*29,578
Amortization of defense projects	1,134,303	1,211,184	423,551	451,558	218,895	238,931	491,857	520,695
Equalization	*30,483	249,063	*814,774	33,249	194,133	152,397	590,158	63,417
All other	127,397,277	91,605,883	57,041,516	35,802,939	22,606,937	16,620,203	47,748,824	39,182,741
Traffic	16,215,860	15,495,671	5,496,314	5,299,246	3,430,343	3,288,185	7,289,203	6,908,240
Transportation—Rail line	314,219,957	264,305,253	133,890,227	109,818,610	54,745,472	46,393,377	125,584,258	108,093,266
Miscellaneous operations	9,366,646	9,211,565	3,283,372	3,437,472	1,276,593	1,259,139	4,806,681	4,514,954
General	23,167,774	21,282,275	9,210,496	8,317,883	4,897,849	4,741,068	9,059,429	8,223,324
Railway operating expenses	635,020,694	521,133,375	262,996,054	203,030,293	117,228,588	99,692,176	254,796,052	218,410,906
Net revenue from railway operations	290,362,540	128,113,024	83,008,276	30,215,100	59,055,349	14,980,194	148,298,915	82,917,730
Railway tax accruals	139,032,238	65,608,160	39,717,401	17,888,136	31,256,846	10,140,179	68,057,991	37,579,845
Pay-roll taxes	23,454,903	19,429,616	9,755,212	7,712,943	4,325,905	3,655,864	9,373,786	8,060,809
Federal income taxes†	86,590,307	21,679,133	19,585,279	2,242,884	20,724,529	646,978	46,280,499	18,789,271
All other taxes	28,987,028	24,499,411	10,376,910	7,932,309	6,206,412	5,837,337	12,403,706	10,729,765
Railway operating income	151,330,302	62,504,864	43,290,875	12,326,964	27,798,503	4,840,015	80,240,924	45,337,885
Equipment rents—Dr. balance	13,417,670	12,342,959	5,922,601	4,246,081	*1,669,845	176,382	9,164,914	7,920,496
Joint facility rent—Dr. balance	3,283,354	3,509,889	1,429,176	1,737,831	483,952	576,642	1,370,226	1,195,416
Net railway operating income	134,629,278	46,652,016	35,939,098	6,343,052	28,984,396	4,086,991	69,705,784	36,221,973
Ratio of expenses to revenues (percent)	68.6	80.3	76.0	87.0	66.5	86.9	63.2	72.5

FOR THE TEN MONTHS ENDED WITH OCTOBER 1950 AND 1949

Item	United States		Eastern District		Southern District		Western District	
	1950	1949	1950	1949	1950	1949	1950	1949
Miles of road operated at close of month	226,455	225,230	53,355	53,459	46,103	46,030	126,997	125,741
Revenues:								
Freight	$6,433,018,287	$5,879,704,347	$2,379,075,068	$2,183,245,585	$1,312,019,483	$1,172,028,175	$2,741,923,736	$2,524,430,587
Passenger	668,261,699	722,130,017	352,888,365	376,396,833	100,088,209	112,577,512	215,285,125	233,155,672
Mail	[1]200,285,516	180,154,290	69,554,591	66,319,508	34,096,377	32,555,615	96,634,548	81,279,167
Express	64,138,233	63,460,700	20,314,555	16,877,359	10,954,618	11,087,170	32,869,060	35,496,171
All other operating revenues	317,375,850	311,896,781	141,137,252	138,456,872	51,819,973	50,764,005	124,418,625	122,675,904
Railway operating revenues	7,683,079,585	7,157,346,135	2,962,969,831	2,781,296,157	1,508,978,660	1,379,012,477	3,211,131,094	2,997,037,501
Expenses:								
Maintenance of way and structures	1,069,399,144	1,094,223,927	379,977,880	385,858,265	224,594,455	223,897,722	464,826,809	484,467,940
Depreciation	109,462,306	105,488,456	46,215,505	44,512,009	19,641,784	18,429,791	43,605,017	42,546,656
Retirements	12,823,636	10,916,121	4,640,689	2,483,741	2,393,963	1,590,306	5,788,984	6,842,074
Deferred maintenance	*1,745,176	*3,063,536	*1,025,808	*328,422	*266,026	*1,573,312	*453,342	*1,161,802
Amortization of defense projects	1,499,967	1,499,946	172,797	154,568	445,506	466,065	881,664	879,313
Equalization	*550,742	*5,320,304	*4,125,676	*3,223,539	4,350,311	*281,296	*775,377	*1,815,469
All other	947,909,153	984,703,244	334,100,373	342,259,908	198,028,917	205,266,168	415,779,863	437,177,168
Maintenance of equipment	1,393,482,620	1,341,606,072	586,759,828	549,021,095	269,816,129	267,039,819	536,906,663	525,545,158
Depreciation	246,752,326	230,996,088	91,786,888	89,725,390	55,196,750	51,880,235	99,768,688	89,360,463
Retirements	*580,863	*576,455	*88,942	*113,772	*199,909	*146,726	*292,012	*315,957
Deferred maintenance and major repairs	*9,468,091	*1,182,038	*8,747,976	*624,049	*122,957	*217,375	*597,158	*340,614
Amortization of defense projects	12,115,424	12,158,221	4,486,777	4,471,939	2,349,156	2,387,170	5,279,491	5,299,112
Equalization	4,310,220	2,132,620	2,001,431	1,475,136	1,101,354	726,142	1,207,435	*68,658
All other	1,140,353,604	1,098,107,636	497,321,650	454,086,451	211,491,735	212,410,373	431,540,219	431,610,812
Traffic	159,038,985	161,930,100	54,052,239	55,397,718	33,174,832	34,169,901	71,811,914	72,362,481
Transportation—Rail line	2,856,866,692	2,850,725,182	1,212,160,953	1,202,773,933	514,976,714	517,532,235	1,129,729,025	1,130,419,014
Miscellaneous operations	91,529,872	99,437,616	32,244,752	36,703,763	13,587,513	14,568,087	45,697,607	48,165,766
General	224,923,834	227,269,160	87,705,958	88,234,402	48,033,980	48,776,400	89,183,896	90,258,358
Railway operating expenses	[2]5,795,241,147	5,775,192,057	2,352,901,610	2,317,989,176	1,104,183,623	1,105,984,164	2,338,155,914	2,351,218,717
Net revenue from railway operations	1,887,838,438	1,382,154,078	610,068,221	463,306,981	404,795,037	273,028,313	872,975,180	645,818,784
Railway tax accruals	922,575,384	699,740,690	286,141,822	234,350,508	216,457,905	148,451,490	419,975,657	316,938,692
Pay-roll taxes	216,599,898	212,295,957	89,077,486	87,033,126	40,833,336	40,505,512	86,689,076	84,757,319
Federal income taxes†	428,775,946	221,639,313	98,095,824	51,274,536	116,120,552	52,020,511	214,559,570	118,344,266
All other taxes	277,199,540	265,805,420	98,968,512	96,042,846	59,504,017	55,925,467	118,727,011	113,837,107
Railway operating income	965,263,054	682,413,388	323,926,399	228,956,473	188,337,132	124,576,823	452,999,523	328,880,092
Equipment rents—Dr. balance	117,826,871	107,845,576	56,530,918	46,333,597	*13,514,872	*5,992,110	74,810,825	67,504,089
Joint facility rent—Dr. balance	32,764,381	31,933,546	15,342,266	15,465,570	4,978,325	4,891,561	12,443,790	11,576,415
Net railway operating income	814,671,802	542,634,266	252,053,215	167,157,306	196,873,679	125,677,372	365,744,908	249,799,588
Ratio of expenses to revenues (percent)	75.4	80.7	79.4	83.3	73.2	80.2	72.8	78.5

† Includes income tax and surtax.
* Decrease, deficit, or other reverse item.
[1] Includes the following amounts of additional railway mail pay accrued under the Post Office Dept. stipulation dated Oct. 11, 1950: $13,906,194 for the period Feb. 19, 1947 to Dec. 31, 1949; and $5,164,729 for the period Jan. 1, 1950 to Oct. 31, 1950. Excludes $845,665 accrued by certain carriers in Delayed Income Credits.
[2] Includes accruals for additional wage payments of $3,910,339.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1950	1949
Akron, Canton & Youngstown	Nov.	171	402,984	232	422,061	58,265	39,319	31,161	122,885	275,010	65.2	147,051	62,367	72,573	22,619
	11 mos.	171	4,433,299	942	4,605,128	677,164	454,743	335,026	1,351,211	3,057,505	66.4	1,547,623	628,902	807,225	448,634
Atchison, Topeka & Santa Fe System	Nov.	13,074	40,287,008	3,768,018	60,245,714	6,322,787	8,145,905	980,926	14,252,205	31,327,538	52.00	28,918,176	13,674,922	15,428,889	6,780,026
	11 mos.	13,073	384,333,593	40,743,961	475,896,125	66,425,489	80,861,097	10,634,313	142,684,777	319,202,639	67.07	156,693,486	79,890,378	76,834,281	50,843,884
Atlanta & St. Andrews Bay	Nov.	82	254,195	2,399	265,784	29,502	22,014	7,723	50,480	120,847	45.5	144,937	67,754	56,465	66,509
	11 mos.	82	2,633,811	18,035	2,724,337	344,736	205,986	81,704	578,146	1,344,679	49.4	1,379,658	558,232	579,311	351,460
Atlanta & West Point	Nov.	93	306,753	44,514	419,246	47,201	50,275	13,678	170,226	304,057	72.5	115,189	57,460	37,963	3,642
	11 mos.	93	3,011,936	462,638	3,977,341	437,535	534,196	152,432	1,745,629	3,115,052	78.3	862,289	412,428	219,055	24,188
Western of Alabama	Nov.	133	334,330	41,313	431,369	43,818	61,065	14,099	146,422	286,250	66.4	145,119	67,486	70,880	21,516
	11 mos.	133	3,097,345	444,562	3,932,365	486,311	612,560	155,448	1,533,591	3,015,940	76.7	916,425	481,732	394,711	264,352
Atlantic & Danville	Nov.	205	154,347	.....	159,641	40,000	9,273	11,945	51,959	126,237	79.1	33,404	6,765	7,552	—16,555
	11 mos.	205	1,303,867	.....	1,329,084	289,924	87,338	89,217	417,212	999,844	75.2	329,240	76,863	82,035	—78,064
Atlantic Coast Line	Nov.	5,499	9,371,036	1,122,012	11,311,729	1,598,156	2,092,140	308,076	4,250,327	8,730,095	77.2	2,581,634	1,300,000	1,274,463	1,152,741
	11 mos.	5,509	95,084,518	14,781,756	118,703,071	21,548,149	20,625,038	3,189,925	45,881,003	96,763,805	81.5	21,939,266	13,200,000	7,713,476	5,565,812
Charleston & Western Carolina	Nov.	343	402,725	4,265	418,827	97,744	89,700	15,432	141,120	354,460	84.6	64,367	30,000	36,014	68,567
	11 mos.	343	4,335,254	29,889	4,468,560	882,347	690,919	168,793	1,702,288	3,599,537	79.7	909,023	425,000	447,610	135,816
Baltimore & Ohio	Nov.	6,201.70	30,131,242	1,955,354	35,588,561	5,529,475	7,830,666	745,771	14,151,999	29,539,137	83.0	6,049,424	3,438,703	1,871,997	1,289,111
	11 mos.	6,201.70	322,768,550	19,910,179	366,133,981	49,275,937	76,809,857	8,477,796	145,930,363	294,711,394	80.5	71,422,587	32,346,044	31,987,246	25,090,318
Staten Island Rapid Transit	Nov.	29	223,850	43,400	270,514	65,781	40,622	1,438	130,812	271,545	100.4	—1,031	35,492	—50,224	—43,083
	11 mos.	29	2,080,799	527,458	2,646,666	513,816	418,244	17,016	1,392,590	2,603,462	98.4	43,204	367,196	—477,928	—504,054
Bangor & Aroostook	Nov.	602	595,768	27,356	701,886	182,116	170,539	13,265	182,099	601,102	85.6	100,784	82,246	55,142	83,250
	11 mos.	602	9,978,635	335,006	10,785,140	2,001,156	1,860,667	144,555	2,733,654	7,276,465	67.5	3,508,675	1,716,520	1,793,811	1,734,279
Bessemer & Lake Erie	Nov.	212	1,966,560	676	1,990,463	228,582	1,013,306	18,450	480,751	1,821,499	91.5	168,964	219,714	181,235	93,317
	11 mos.	212	22,542,372	11,229	22,777,820	2,012,571	8,050,563	178,670	4,809,224	16,000,511	70.2	6,777,309	4,618,402	4,656,464	3,960,608
Boston & Maine	Nov.	1,711	5,472,407	914,406	7,086,545	1,205,875	1,124,222	99,497	3,029,468	5,749,142	81.1	1,337,403	594,898	417,939	477,149
	11 mos.	1,711	60,089,972	10,615,169	77,764,796	12,798,082	11,338,176	1,144,414	32,140,822	60,698,719	78.1	17,066,077	7,627,964	5,473,639	4,507,779
Cambria & Indiana	Nov.	35.38	139,023	.....	139,771	13,407	58,829	—239	27,254	102,769	73.53	37,002	76,510	90,279	49,520
	11 mos.	35.38	1,344,776	.....	1,346,146	152,560	775,874	6,300	250,459	1,320,184	98.07	25,962	651,359	637,512	429,195
Canadian Pacific Lines in Maine	Nov.	234	278,671	29,411	337,655	172,845	61,652	7,007	139,713	391,589	116.0	—53,934	24,082	—114,285	—95,483
	11 mos.	234	3,862,292	397,365	4,534,028	1,227,343	717,017	73,321	1,836,463	3,976,406	87.7	557,622	272,069	—315,184	—198,389
Canadian Pacific Lines in Vermont	Nov.	90	206,051	14,948	251,433	56,926	28,885	5,705	116,865	215,331	85.6	36,102	12,243	—37,916	—71,269
	11 mos.	90	1,777,440	150,618	2,140,876	722,433	263,206	59,667	1,184,098	2,302,770	107.6	—161,894	132,456	—875,974	—1,206,578
Central of Georgia	Nov.	1,815.29	3,111,094	223,957	3,593,378	592,750	563,093	110,111	1,476,043	2,908,026	80.9	685,352	213,467	429,140	38,792
	11 mos.	1,815.29	30,040,588	2,306,787	34,927,650	5,936,775	5,792,289	1,212,651	15,704,341	30,502,356	87.3	4,425,294	2,374,137	1,592,440	358,669
Central of New Jersey	Nov.	410	2,680,557	459,399	3,514,398	518,099	716,981	49,920	1,698,558	3,127,931	89.0	386,467	379,022	—376,785	—235,328
	11 mos.	410	28,917,953	5,388,193	36,681,325	5,348,920	6,116,555	583,876	17,825,553	31,550,099	86.0	5,131,226	4,096,231	—2,698,756	—4,145,703
Central of Pennsylvania	Nov.	210	1,422,327	6,078	1,558,820	189,670	340,862	22,676	438,215	1,032,017	66.2	526,803	77,135	729,616	703,163
	11 mos.	212	17,242,015	94,280	17,812,608	1,893,413	3,697,599	255,803	5,041,929	11,318,438	63.5	6,494,170	794,408	8,787,752	7,882,665
Central of Vermont	Nov.	422	802,000	39,000	989,000	71,288	164,864	15,627	374,164	659,057	66.6	329,943	48,941	225,552	—27,885
	11 mos.	421	8,411,000	599,000	9,725,000	1,650,361	1,609,364	169,682	3,975,067	7,800,778	80.2	1,924,222	508,978	768,944	54,036
Chesapeake & Ohio	Nov.	5,116	25,144,574	779,002	27,768,335	3,512,921	5,244,817	529,446	9,177,383	19,511,786	70.3	8,256,549	4,733,730	3,780,403	2,287,031
	11 mos.	5,118	270,561,495	7,265,088	290,661,111	39,670,340	53,086,915	5,522,675	93,029,648	202,644,670	69.7	88,016,441	46,122,423	45,156,678	24,251,565
Chicago & Eastern Illinois	Nov.	886	2,210,618	263,091	2,753,829	310,167	364,862	109,693	945,780	1,867,444	67.8	886,385	264,700	533,232	139,412
	11 mos.	891	21,867,251	2,558,360	27,106,517	3,298,876	3,848,756	1,066,582	10,278,674	19,889,407	73.4	7,217,110	2,054,300	3,688,173	965,825
Chicago & Illinois Midland	Nov.	130	986,797	217	1,001,771	72,986	133,617	25,132	219,271	485,662	48.5	516,109	216,655	282,598	170,172
	11 mos.	130	9,424,720	2,989	9,586,486	926,723	1,376,132	266,471	2,273,149	5,232,647	54.6	4,353,839	1,825,409	2,385,581	918,275
Chicago & North Western	Nov.	7,924	13,327,606	1,630,440	18,342,340	2,373,203	2,824,478	319,780	7,215,362	13,449,239	73.3	4,893,101	2,377,269	2,049,245	1,403,561
	11 mos.	8,008	134,467,877	18,686,847	172,017,281	27,026,096	31,154,205	3,422,231	76,046,195	145,635,484	84.7	26,381,797	13,850,880	7,926,377	1,699,878
Chicago, Burlington & Quincy	Nov.	8,830	18,466,162	1,370,345	22,024,797	2,869,073	2,734,459	400,929	6,986,666	13,680,365	62.1	8,344,432	3,828,189	3,699,132	3,441,059
	11 mos.	8,844	180,115,948	15,990,719	215,644,056	31,739,989	31,290,692	4,524,400	73,185,937	148,315,381	68.8	67,328,675	32,011,312	30,261,395	17,831,212
Chicago Great Western	Nov.	1,476	2,732,952	31,068	2,959,286	662,830	287,791	102,147	868,702	1,998,439	67.5	960,847	324,633	313,198	313,416
	11 mos.	1,478	27,963,481	220,528	30,306,714	6,957,683	3,278,992	1,061,863	9,263,322	21,347,780	70.4	8,958,934	2,923,508	3,299,591	2,337,101
Chicago, Indianapolis & Louisville	Nov.	541	1,478,580	86,391	1,669,767	268,326	248,986	86,159	592,838	1,288,223	77.1	381,544	144,807	162,564	111,978
	11 mos.	541	16,027,951	879,105	18,124,424	3,101,076	183,989	2,559,462	842,276	6,157,610	75.1	4,509,728	1,630,703	1,893,494	1,022,776
Chicago, Milwaukee, St. Paul & Pacific	Nov.	10,671	19,414,735	1,346,403	22,898,350	2,592,196	4,219,362	417,350	8,744,359	16,896,828	73.8	6,001,522	2,843,000	2,644,330	1,528,584
	11 mos.	10,671	192,764,465	15,729,030	229,993,130	30,907,285	41,604,999	4,591,962	95,178,430	182,077,496	79.2	47,915,634	24,118,000	18,345,722	10,587,555
Chicago, Rock Island & Pacific	Nov.	7,601	103,177,280	1,523,012	16,586,929	1,904,731	2,389,744	448,957	5,958,730	11,393,391	68.7	5,193,538	2,244,031	2,406,803	1,861,040
	11 mos.	7,611	132,681,868	16,132,262	162,956,881	21,583,830	26,158,716	4,851,442	59,315,749	119,395,368	73.3	43,561,513	18,950,569	17,315,581	18,200,328
Chicago, St. Paul, Minn. & Omaha	Nov.	1,617	2,566,111	164,231	3,238,367	430,994	351,644	58,250	1,370,267	2,325,159	71.8	913,208	177,852	549,549	499,460
	11 mos.	1,617	26,091,884	1,898,511	30,463,083	4,585,464	3,996,361	622,770	14,473,159	24,938,512	81.9	5,524,571	1,992,602	1,620,374	866,781
Clinchfield	Nov.	317	1,684,980	2,009	1,699,457	244,285	295,989	35,568	377,190	981,975	57.8	717,483	193,522	695,387	566,93
	11 mos.	317	18,499,300	21,652	18,633,344	2,469,718	3,257,608	375,308	4,194,653	10,621,233	57.0	8,012,112	1,915,028	7,531,213	4,193,83

(Table continued on next left-hand page)

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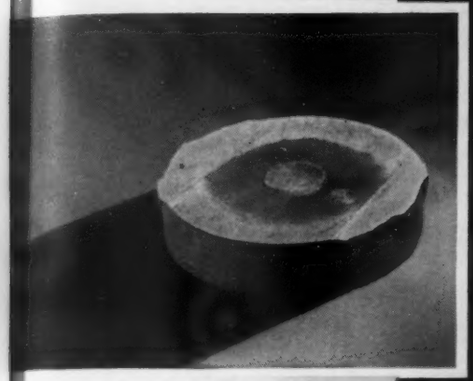
REVENUES AND EXPENSES OF RAILWAYS

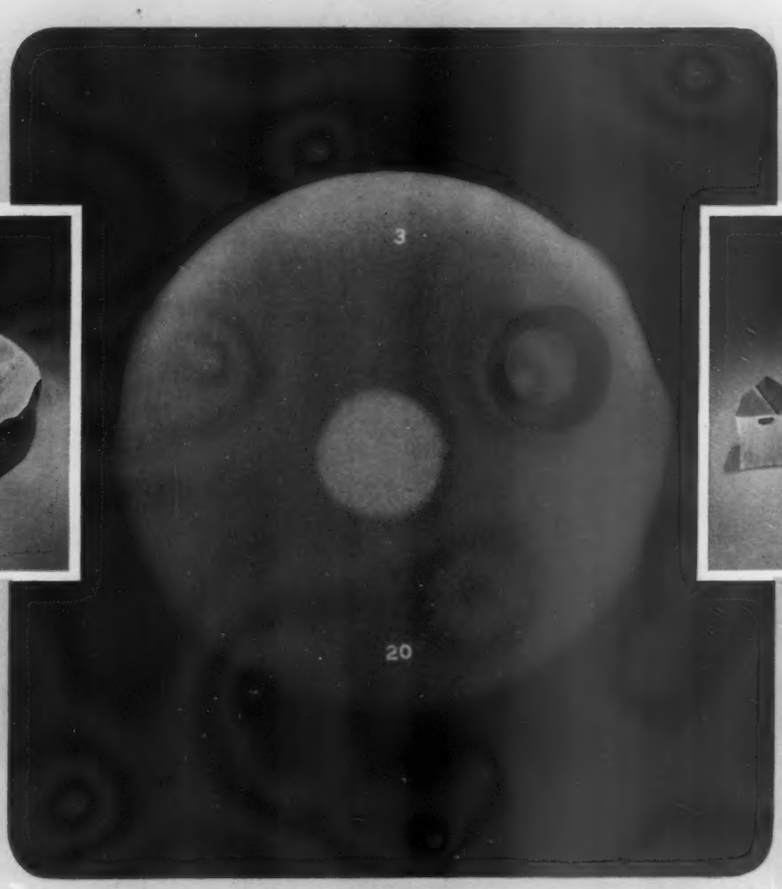
MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1950	1949
Colorado & Southern	Nov.	739	1,266,784	85,470	1,459,594	156,347	167,562	25,163	481,308	881,734	60.4	577,860	364,644	129,864	133,010
	11 mos.	742	11,291,094	824,445	13,095,181	1,857,543	1,784,208	273,593	4,537,115	8,996,999	68.7	4,098,182	2,117,425	1,314,261	840,283
Ft. Worth & Denver City	Nov.	1,130	1,874,618	131,942	2,150,062	248,193	195,926	44,662	638,983	1,211,638	56.4	938,424	365,544	432,867	457,651
	11 mos.	1,027	15,135,380	1,394,130	17,821,613	2,411,384	2,149,529	527,130	5,904,115	11,839,160	66.4	5,982,453	2,096,002	2,678,036	2,121,407
Colorado & Wyoming	Nov.	41	162,241	.....	283,460	24,108	23,706	1,250	97,237	156,970	55.3	126,493	69,694	55,988	—21,384
	11 mos.	41	1,334,414	.....	2,266,103	214,252	230,646	10,351	885,204	1,447,200	63.8	818,903	479,065	336,450	314,038
Columbus & Greenville	Nov.	168	207,527	.....	214,563	57,663	31,018	3,890	52,692	162,105	75.6	52,458	29,421	22,106	31,132
	11 mos.	168	1,711,793	766	1,785,144	494,310	334,494	49,778	550,629	1,618,124	90.6	167,020	161,967	30,254	139,755
Delaware & Hudson	Nov.	793	4,668,380	138,672	4,951,240	557,485	931,201	67,291	1,693,829	3,422,343	69.1	1,528,897	782,244	764,604	296,534
	11 mos.	794	46,845,210	1,793,658	49,987,040	6,468,616	10,447,331	784,962	19,049,448	38,643,438	77.3	11,343,601	5,917,659	5,588,067	3,418,199
Delaware, Lackawanna & Western	Nov.	966	5,751,806	781,237	7,142,125	773,544	1,233,355	147,782	3,192,314	5,590,873	78.3	1,551,252	762,116	756,665	930,648
	11 mos.	967	58,960,960	8,869,407	73,906,394	8,664,795	12,727,661	1,684,580	32,743,234	7,434,039	79.0	15,497,302	7,885,253	7,434,039	6,443,814
Denver & Rio Grande Western	Nov.	2,400	5,930,811	224,965	6,556,317	639,579	1,014,624	140,862	2,031,473	4,081,609	62.3	2,474,708	1,151,552	1,315,273	852,797
	11 mos.	2,410	54,165,942	2,765,075	59,582,742	7,338,544	10,864,460	1,610,691	20,490,464	43,008,392	72.2	16,574,350	8,108,224	8,665,661	7,636,313
Detroit & Mackinac	Nov.	232	228,038	474	246,003	30,000	22,037	3,534	42,482	109,329	44.4	136,674	61,136	65,456	42,250
	11 mos.	232	1,953,059	6,876	2,064,584	345,000	216,598	22,928	380,492	1,053,246	51.0	1,011,338	432,558	538,877	393,436
Detroit & Toledo Shore Line	Nov.	50	588,986	.....	592,816	81,221	60,707	14,134	202,286	369,056	62.3	223,760	75,018	53,869	39,284
	11 mos.	50	6,741,965	.....	6,772,317	734,132	579,646	150,399	2,091,707	3,681,262	54.4	3,091,055	990,021	1,013,156	775,926
Detroit, Toledo & Ironton	Nov.	464	1,370,834	752	1,439,231	167,002	167,991	26,421	425,843	823,674	57.2	615,557	267,120	296,777	244,548
	11 mos.	464	15,775,854	4,581	16,339,067	1,803,142	2,521,073	270,049	4,364,220	9,371,475	57.4	6,967,592	2,886,432	3,361,395	2,605,696
Duluth, Missabe & Iron Range	Nov.	560	3,431,187	1,138	4,009,344	507,666	534,979	7,703	2,123,470	3,255,457	81.2	753,887	501,620	220,168	—861,150
	11 mos.	562	38,736,004	18,787	45,414,485	5,992,550	5,945,062	88,382	13,495,038	26,283,983	57.9	19,130,502	10,108,622	8,733,734	6,784,231
Duluth, South Shore & Atlantic	Nov.	539	586,929	7,262	649,874	92,034	95,897	22,104	223,081	446,738	68.7	203,136	25,644	147,810	—45,954
	11 mos.	539	6,033,865	82,494	6,544,420	1,215,785	1,069,671	211,408	2,370,629	5,042,894	77.1	1,501,526	281,868	906,044	—440,169
Duluth, Winnipeg & Pacific	Nov.	175	343,000	900	374,400	57,940	47,210	4,474	157,833	272,953	72.9	101,447	24,892	41,703	53,726
	11 mos.	175	3,895,000	15,300	3,995,200	728,956	491,014	46,207	1,683,488	3,017,030	75.5	978,170	309,136	171,909	—245,064
Elgin, Joliet & Eastern	Nov.	238	3,657,716	.....	4,458,988	386,787	599,098	29,505	1,405,796	2,555,228	57.3	1,903,760	793,312	660,392	420,906
	11 mos.	238	37,301,394	19	45,109,642	3,339,541	5,701,742	296,215	14,037,617	24,666,883	54.7	20,442,759	8,302,490	8,362,047	5,501,029
Erie	Nov.	2,228	12,601,452	603,242	14,693,524	1,613,292	2,100,196	312,339	5,824,332	10,488,794	71.4	4,204,730	1,928,305	1,827,457	1,109,956
	11 mos.	2,230	134,237,164	6,572,955	151,485,323	18,411,770	22,645,705	3,430,446	60,608,659	111,632,969	73.7	39,852,354	17,549,257	17,543,983	9,288,506
Florida East Coast	Nov.	571	1,383,141	305,507	2,073,168	479,813	431,954	66,908	725,784	1,843,395	88.9	229,773	148,480	2,178	—12,520
	11 mos.	571	16,250,501	5,569,359	24,290,274	4,788,915	4,384,475	695,238	8,602,604	20,254,924	83.4	4,035,350	1,658,630	1,152,773	—420,188
Georgia Railroad	Nov.	326	702,783	35,850	828,913	103,984	105,778	27,719	301,375	571,298	68.9	257,615	33,837	236,936	76,363
	11 mos.	326	7,038,788	339,448	7,990,181	1,015,031	1,140,455	297,748	3,267,224	6,076,354	76.1	1,913,827	374,143	1,724,035	787,264
Georgia & Florida	Nov.	359	274,028	—26	279,678	81,964	31,677	17,358	83,328	230,328	82.4	49,350	33,348	11,417	—51,998
	11 mos.	395	2,679,154	64	2,715,925	721,902	348,871	173,739	1,037,351	2,427,576	89.4	288,349	174,014	—64,556	—342,252
Grand Trunk Western	Nov.	974	4,138,000	218,000	5,234,000	660,152	749,297	68,119	1,997,774	3,622,733	69.2	1,611,267	368,862	1,040,108	23,519
	11 mos.	972	46,245,000	2,116,000	52,243,000	7,478,312	8,324,936	726,616	21,188,748	39,368,454	75.4	12,874,546	2,629,884	7,782,435	2,612,112
Canadian National Lines in New Engl.	Nov.	172	200,000	4,000	269,000	49,030	53,683	2,928	109,144	227,299	84.5	41,701	22,478	—15,661	—105,521
	11 mos.	172	1,783,000	86,800	2,269,000	688,118	498,871	30,574	1,321,015	2,681,432	118.2	—412,432	247,258	—1,061,223	—1,306,918
Great Northern	Nov.	8,316	21,367,067	999,286	23,702,896	2,762,433	3,143,490	322,964	7,262,518	14,117,691	59.6	9,585,205	4,229,602	4,851,908	1,793,411
	11 mos.	8,316	178,527,735	10,049,889	203,351,461	34,479,691	33,903,589	3,566,753	68,998,525	147,988,629	72.8	55,362,832	28,744,043	23,409,030	20,321,221
Green Bay & Western	Nov.	224	326,938	.....	333,110	26,866	42,001	19,638	75,856	176,930	53.1	156,180	87,049	62,255	55,871
	11 mos.	224	3,415,634	—13	3,489,616	623,356	444,569	210,366	858,969	2,287,691	65.6	1,201,925	515,591	518,583	149,672
Gulf, Mobile & Ohio	Nov.	2,898	6,262,350	375,352	7,989,612	988,270	1,282,279	237,701	2,048,599	4,845,180	60.6	3,144,432	969,005	1,868,409	559,552
	11 mos.	2,898	60,951,682	4,350,101	71,270,858	10,412,929	12,780,753	2,500,565	21,365,715	50,290,376	70.6	20,980,482	9,558,392	8,292,094	6,418,756
Illinois Terminal	Nov.	462	775,730	83,200	981,877	147,809	141,907	36,344	384,127	758,213	77.22	223,664	109,930	88,430	120,230
	11 mos.	462	8,769,212	985,578	11,046,764	1,563,044	1,448,702	396,582	4,283,880	8,213,788	74.35	2,832,976	1,411,107	1,182,639	1,208,462
Illinois Central	Nov.	6,540	21,134,096	1,831,351	25,360,949	3,939,176	4,136,151	431,967	8,447,916	17,665,661	69.7	7,695,288	3,845,130	3,674,099	2,769,184
	11 mos.	6,542	204,250,399	19,445,090	247,469,407	39,461,885	42,327,915	4,814,615	87,780,694	184,143,901	74.4	63,325,506	33,387,450	28,084,967	22,521,678
Kansas City Southern	Nov.	891	3,110,906	147,003	3,594,041	410,990	467,321	85,641	980,163	2,053,044	57.1	1,540,997	616,000	733,092	695,512
	11 mos.	891	31,273,435	1,246,658	35,953,571	3,505,012	4,537,216	979,170	10,311,811	20,535,110	57.1	15,418,461	5,805,000	7,526,899	8,301,007
Kansas, Oklahoma & Gulf	Nov.	327	523,366	611	527,334	46,238	36,462	17,573	120,617	241,424	45.8	285,910	130,014	124,591	127,708
	11 mos.	327	4,951,679	6,788	4,997,555	556,187	403,932	186,275	1,233,839	2,588,903	51.8	2,408,652	1,081,738	1,036,621	796,595
Lake Superior & Ishpeming	Nov.	156	361,586	41	428,572	51,955	34,917	1,667	139,314	243,463	56.8	185,109	160,954	31,230	—76,901
	11 mos.	156	2,963,683	395	3,620,322	504,596	471,793	19,774	917,549	2,035,298	56.2	1,585,024	955,064	699,209	686,559
Lehigh & Hudson River	Nov.	96	257,801	.....	258,650	34,085	28,066	8,332	80,387	164,134	63.5	94,516	52,937	21,057	14,440
	11 mos.	96	2,757,603	.....	2,763,943	382,416	284,769	98,139	994,149	1,859,069	67.3	904,874	387,031	286,682	114,820
Lehigh & New England	Nov.	191	760,623	.....	770,574	68,931	105,910	10,428	181,985	396,558	51.5	374,016	182,493	214,958	242,183
	11 mos.	191	7,757,377	.....	7,822,922	823,320	1,200,428	126,206	1,848,527	4,328,640	55.3	3,494,282	1,784,265	2,086,429	1,605,589
Lehigh Valley	Nov.	1,240	5,541,640	292,431	6,105,596	779,836	1,031,004	130,489	2,430,106	4,581,982	75.0	1,523,614	462,651	1,008,496	807,528
	11 mos.	1,248	58,894,794	3,225,822	64,961,796	8,116,152	11,038,115	1,462,759	25,997,808	49,095,657	75.6	15,866,139	6,546,333	7,745,369	5,435,690
Long Island	Nov.	365	1,246,634	2,511,870	3,976,773	589,077	743,651	8,637	2,123,963	3,634,025	91.4	342,748	450,036	—351,640	—366,615
	11 mos.	365	12,672,027	30,557,056	45,379,654	6,240,639	8,074,873	183,919	22,404,368	38,293,250	84.4	7,086,404	4,945,499	—904,443	—2,808,153

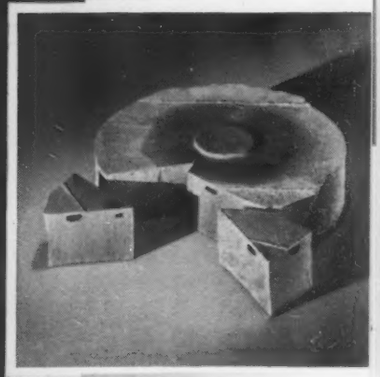
(Table continued on next left-hand page)



Aluminum alloy casting 2¼ x 11¼" for aircraft accessory part.



Radiograph which revealed defect in casting.



Section reveals hole detected by radiography.

Minutes of Radiography saved hours of machining

AFTER machining, this aluminum alloy casting was to be an important part in an aircraft accessory, vital to high-altitude flying. The finished part was needed quickly by the customer. Design specifications demanded high quality.

This was no time to wait for machining to disclose any defects. There was too much to lose —setup time, machining time, take-down time, as well as the reputation of the foundry.

Radiography saved all that. In a few minutes it revealed a defect that caused rejection of the rough casting at the foundry. Other castings, proved sound by radiography, were sent to the customer.

Cases like this show how more and more foundries are able to release only sound castings. Perhaps even more important, radiography is showing how to make consistently sound castings, by picturing the internal effects of changes in gating, venting, chilling, pouring temperature, and other variables.

Ask your x-ray dealer to explain how radiography can help you increase yield and cut costs.

EASTMAN KODAK COMPANY
X-Ray Division, Rochester 4, New York

Radiography . . .

another important function of photography

Kodak
TRADE-MARK

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1950	1949
Louisiana & Arkansas	Nov.	756	1,855,400	60,100	1,990,876	278,837	208,926	46,873	502,873	1,093,358	54.9	897,518	411,395	352,481	362,634
	11 mos.	756	17,982,750	717,327	19,549,591	2,622,457	2,037,208	518,905	5,499,128	11,296,167	57.8	8,253,424	3,558,687	3,582,679	3,060,061
Louisville & Nashville	Nov.	4,778	15,691,186	1,038,270	18,450,632	1,794,694	3,322,869	297,113	6,308,224	12,286,663	65.5	6,463,969	3,810,610	3,355,135	914,599
	11 mos.	4,779	161,457,515	11,119,536	184,680,919	23,642,027	35,886,410	3,295,452	68,996,855	138,028,592	74.7	46,652,327	30,363,085	24,106,108	11,310,365
Maine Central	Nov.	981	1,633,208	99,884	1,857,018	393,315	372,859	16,533	683,293	1,530,595	82.4	326,423	174,676	145,670	130,811
	11 mos.	981	18,794,576	1,468,909	21,689,665	4,336,864	3,977,543	204,539	7,823,795	17,085,671	78.8	4,603,994	2,397,446	1,910,063	1,986,282
Midland Valley	Nov.	334	169,209	3	172,619	39,665	15,990	3,909	52,122	118,383	68.6	54,236	12,039	29,296	19,353
	11 mos.	334	1,851,167	46	1,886,793	462,227	171,995	41,369	604,827	1,361,242	72.1	525,551	192,235	199,846	155,558
Minneapolis & St. Louis	Nov.	1,416	1,932,032	5,692	2,055,674	267,015	228,234	112,552	519,583	1,225,443	59.6	830,231	390,082	388,346	256,108
	11 mos.	1,416	18,363,043	77,454	19,104,529	3,109,552	2,707,164	1,758,293	1,180,711	13,727,030	71.9	5,377,499	2,578,228	2,318,303	1,271,555
Minneapolis, St. Paul & S. S. Marie	Nov.	3,224	3,563,162	69,443	3,803,298	628,010	538,680	67,154	1,357,047	2,697,748	70.9	1,105,550	422,012	648,429	151,292
	11 mos.	3,224	32,248,458	982,823	35,596,199	7,119,517	5,733,431	738,333	13,847,862	28,648,048	80.5	6,948,151	3,822,701	2,562,994	2,074,922
Mississippi Central	Nov.	148	227,532	.....	232,166	35,865	28,988	12,799	58,938	145,544	62.7	86,622	37,748	35,586	10,368
	11 mos.	148	2,163,696	Dr. 19	2,209,213	465,184	283,067	137,597	582,239	1,565,236	70.9	643,977	274,795	241,246	126,703
Missouri-Illinois	Nov.	172	454,901	181	456,900	69,762	60,427	9,232	111,161	259,578	56.8	197,322	93,642	101,741	108,101
	11 mos.	172	4,283,808	2,487	4,315,430	703,395	592,056	84,473	1,103,350	2,570,890	59.6	1,744,540	921,317	806,453	862,332
Missouri.Kansas-Texas Lines	Nov.	3,243	5,701,509	515,016	7,200,142	990,321	972,162	233,031	2,444,749	4,942,036	68.6	2,258,106	1,077,229	943,842	763,734
	11 mos.	3,247	59,704,059	4,121,341	70,527,304	10,381,998	9,820,098	2,463,761	24,774,584	50,574,943	71.7	19,952,361	8,755,227	7,992,554	6,951,843
Missouri Pacific	Nov.	6,960	17,609,414	815,365	20,014,910	3,371,189	3,489,112	415,647	6,866,475	14,727,651	73.6	5,287,259	1,920,850	2,790,499	1,458,612
	11 mos.	6,966	169,868,167	9,682,959	196,598,593	30,619,999	33,621,528	4,496,173	71,503,657	146,433,104	74.5	50,165,489	18,766,810	25,241,956	13,147,927
Gulf Coast Lines	Nov.	1,711	3,438,461	81,991	3,719,101	724,742	586,482	73,262	1,227,594	2,737,977	73.6	981,124	324,181	422,686	595,318
	11 mos.	1,711	34,690,736	887,136	37,460,369	6,684,529	5,448,579	818,061	12,233,634	26,571,354	70.9	10,889,015	3,310,523	4,827,101	5,053,720
International-Great Northern	Nov.	1,089	2,710,275	185,489	3,135,798	682,766	552,935	52,190	1,239,710	2,639,629	84.2	496,169	137,456	246,100	268,707
	11 mos.	1,098	25,885,744	1,929,060	30,498,054	5,790,492	5,368,636	560,000	11,780,993	24,735,777	81.1	5,762,277	1,547,020	2,705,796	2,148,400
Monongahela	Nov.	170	543,789	—3	548,659	78,906	75,299	1,076	229,900	389,682	71.0	158,977	33,473	—27,826	33,163
	11 mos.	170	5,470,492	5,337	5,519,128	761,098	729,980	10,894	2,134,763	3,699,826	67.0	1,819,302	341,104	264,985	403,100
Montour	Nov.	51	253,674	.....	254,506	17,232	78,588	1,095	89,627	194,878	76.6	59,628	57,407	59,775	34,809
	11 mos.	51	2,549,558	.....	2,554,561	299,399	774,128	9,614	824,701	2,009,584	78.7	544,977	535,007	555,870	527,091
Nashville, Chatt. & St. Louis	Nov.	1,049	2,601,534	135,092	3,318,875	534,580	431,015	106,462	1,139,578	2,318,489	69.9	1,000,386	499,349	552,284	376,551
	11 mos.	1,049	27,407,965	1,562,003	32,478,757	5,484,222	4,380,816	1,127,133	11,528,647	23,693,214	72.9	8,785,543	4,394,382	4,409,901	2,973,046
New York Central	Nov.	10,733	48,220,459	9,918,655	65,497,441	10,445,235	12,951,691	752,947	30,325,248	57,391,721	87.6	8,105,720	4,327,423	2,125,784	5,356,124
	11 mos.	10,733	498,830,156	104,632,219	676,643,782	82,480,600	141,053,449	10,806,359	303,820,504	569,504,494	84.2	107,139,288	55,706,442	32,664,366	26,383,011
Pittsburgh & Lake Erie	Nov.	221	3,141,493	81,748	3,419,864	550,542	959,219	73,549	1,341,824	3,063,196	89.6	356,668	576,690	394,717	393,481
	11 mos.	221	35,647,155	816,021	37,986,592	4,426,985	9,930,735	749,570	13,393,743	30,542,821	80.4	7,443,771	6,824,922	6,821,600	5,104,632
New York, Chicago & St. Louis	Nov.	2,192	12,392,432	133,203	13,107,634	1,349,313	2,064,164	283,183	4,192,133	8,258,974	63.01	4,848,660	2,257,307	2,395,852	2,162,286
	11 mos.	2,192	127,230,358	1,584,232	133,270,848	15,067,883	20,468,632	17,084,016	43,925,476	86,899,017	65.20	46,371,831	20,317,941	23,008,642	17,054,365
New York, New Haven & Hartford	Nov.	1,794	7,741,715	3,826,564	12,816,265	1,808,432	1,978,106	162,818	5,233,756	9,775,456	76.3	3,040,809	1,360,000	1,009,471	378,021
	11 mos.	1,795	81,390,467	42,376,701	135,754,505	19,097,512	20,526,038	2,100,489	56,298,818	105,075,087	77.4	30,679,418	11,927,000	9,672,970	7,569,568
New York Connecting	Nov.	21	250,214	.....	269,055	71,766	18,954	.....	57,605	150,796	56.0	118,259	65,022	78,361	—4,386
	11 mos.	21	2,669,802	.....	2,807,849	814,468	212,908	.....	648,875	1,703,657	60.7	1,104,192	691,721	602,461	95,364
New York, Ontario & Western	Nov.	544	577,859	762	611,769	118,355	77,997	26,597	274,437	528,172	86.3	83,597	38,165	—29,470	—46,468
	11 mos.	544	6,075,438	107,844	6,568,957	1,188,520	944,264	280,303	3,090,472	5,823,151	88.6	745,806	423,380	—490,189	—664,245
New York, Susquehanna & Western	Nov.	120	379,195	36,539	439,510	39,833	66,228	6,984	186,663	325,464	74.0	114,046	36,492	43,481	—88
	11 mos.	120	4,100,929	419,126	4,685,534	501,281	602,601	71,459	1,961,645	3,427,226	73.1	1,258,308	368,357	489,615	187,019
Norfolk & Western	Nov.	2,126	13,471,229	436,375	14,427,252	2,156,776	2,234,317	270,909	4,352,524	9,540,760	66.1	4,886,492	3,635,557	2,364,056	2,401,475
	11 mos.	2,128	141,423,936	4,200,724	151,051,246	22,455,506	29,915,668	2,857,774	45,519,224	106,459,246	70.5	44,592,000	30,400,579	25,664,589	18,712,672
Norfolk Southern	Nov.	673	895,507	470	968,484	162,337	108,194	44,800	279,593	655,842	67.7	312,642	126,507	149,672	36,813
	11 mos.	676	8,363,847	1,898	8,627,537	1,699,735	1,100,837	474,130	2,785,533	6,726,370	78.0	1,901,167	845,475	726,898	518,996
Northern Pacific	Nov.	6,903	14,950,760	580,334	16,588,504	1,657,724	2,497,442	243,528	5,061,051	10,039,119	60.5	6,549,385	3,313,474	3,636,946	1,532,214
	11 mos.	6,898	134,774,703	5,533,056	150,518,128	22,912,978	27,325,642	2,774,666	52,542,323	112,017,387	74.4	38,500,741	23,063,759	19,825,371	10,887,852
Northwestern Pacific	Nov.	331	866,826	5,234	904,395	188,052	131,433	4,603	393,389	733,178	81.1	171,217	68,608	29,964	21,417
	11 mos.	331	9,118,703	55,297	9,542,684	2,002,364	1,042,822	49,839	4,058,016	7,301,589	76.5	2,241,095	940,460	599,532	98,021
Oklahoma City-Ada-Atoka	Nov.	132	71,513	5	72,420	20,738	2,357	1,366	20,313	48,589	67.1	23,831	13,923	—6,153	13,326
	11 mos.	132	866,411	10	878,745	243,779	41,820	15,432	235,114	578,938	65.9	299,807	133,220	28,597	86,978
Pennsylvania	Nov.	10,117	63 700,780	11,766,531	83,048,783	10,713,946	22,023,901	1,097,167	34,429,963	71,225,669	85.8	11,823,114	6,215,070	4,071,948	5,182,469
	11 mos.	10,118	629,803,982	128,061,634	832,288,252	104,797,481	199,415,377	12,327,105	352,157,463	700,389,929	84.2	131,898,323	63,300,507	51,922,342	35,446,472
Pennsylvania-Reading Seashore Lines	Nov.	386	603,826	96,632	729,853	261,852	71,972	9,724	514,062	887,922	121.7	158,069	110,369	—393,821	—294,580
	11 mos.	386	5,861,560	2,420,791	8,578,051	1,917,079	1,653,810	123,604	6,158,290	10,135,786	118.2	—1,557,735	1,017,901	—3,996,512	—4,035,512

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1950	1949
Pittsburgh & Shawmut	Nov.	97	209,727	.....	210,628	34,770	52,949	3,497	55,798	160,517	76.2	50,111	5,810	40,282	27,243
	11 mos.	97	2,334,130	.....	2,341,289	469,943	531,601	34,425	586,779	1,729,658	73.9	611,631	177,693	386,383	318,732
Pittsburgh & West Virginia	Nov.	132	682,114	.....	690,924	152,417	156,453	43,027	188,389	564,632	81.7	126,292	75,584	105,670	71,433
	11 mos.	132	7,571,181	.....	7,768,757	1,601,032	1,601,056	456,410	1,956,733	5,982,081	77.0	1,786,676	894,573	1,274,410	1,040,151
Reading	Nov.	1,317	9,418,429	582,739	10,852,774	1,745,913	2,118,582	122,481	4,176,147	8,463,525	78.0	2,389,249	1,173,074	1,260,430	782,332
	11 mos.	1,317	96,204,397	6,004,690	108,141,746	15,938,378	22,022,029	1,436,511	42,010,567	84,653,024	78.3	23,488,722	11,210,291	12,002,160	8,440,874
Richmond, Fredericksburg & Potomac	Nov.	118	1,252,316	416,214	2,091,111	291,359	275,300	18,039	604,233	1,311,511	62.7	779,600	390,404	312,215	109,528
	11 mos.	118	13,334,623	5,170,140	21,389,710	2,794,508	2,975,077	201,843	6,862,048	14,084,422	65.8	7,305,288	3,361,128	2,977,798	705,443
Rutland	Nov.	407	372,658	21,255	462,482	78,871	84,613	14,903	261,682	459,254	99.3	3,228	31,937	—53,478	—13,748
	11 mos.	407	4,143,372	335,411	5,214,081	803,593	894,823	155,134	2,786,555	4,837,308	92.8	376,773	323,005	—171,755	—397,841
Sacramento Northern	Nov.	271	219,613	29	230,099	58,265	16,650	2,277	88,947	173,758	75.5	56,341	22,643	6,409	—18,176
	11 mos.	271	2,836,314	1,262	2,911,975	585,834	183,250	24,428	893,200	1,770,851	60.8	1,141,124	463,389	458,970	—175,004
St. Louis-San Francisco	Nov.	4,635	8,878,539	601,727	10,165,087	1,522,333	1,542,687	260,218	3,737,239	7,479,922	73.6	2,685,165	1,417,232	1,375,767	1,061,394
	11 mos.	4,636	90,195,945	5,402,790	102,673,283	16,260,452	16,800,643	2,612,324	37,376,547	77,422,190	75.4	25,251,093	13,221,737	12,760,170	9,139,310
St. Louis, San Francisco & Texas	Nov.	159	380,938	14,598	418,512	44,927	32,950	16,438	122,283	226,828	54.2	191,684	74,136	81,751	95,172
	11 mos.	159	3,560,445	107,932	3,894,060	540,787	366,577	170,192	1,485,738	2,674,566	68.7	1,219,494	337,965	332,524	402,858
St. Louis Southwestern Lines	Nov.	1,569	5,517,404	41,005	5,778,309	445,874	590,696	154,087	1,672,116	3,020,886	52.3	2,757,423	1,856,142	681,355	1,218,029
	11 mos.	1,569	54,347,540	528,687	57,427,000	6,597,058	6,351,866	1,550,408	16,959,110	33,305,162	58.0	24,121,838	11,132,998	10,619,582	9,156,994
Seaboard Air Line	Nov.	4,146	9,690,499	940,819	11,429,340	1,929,972	1,949,858	320,643	3,759,969	8,404,409	73.5	3,024,931	1,434,830	1,407,443	979,521
	11 mos.	4,146	99,976,113	12,621,632	121,047,267	19,012,077	20,578,346	3,472,102	41,785,197	89,998,231	74.4	31,049,036	14,334,816	14,451,556	9,764,791
Southern	Nov.	6,347	19,305,422	1,018,299	21,792,921	2,444,201	3,767,829	351,056	7,084,975	14,441,087	66.3	7,351,834	3,528,524	3,277,201	2,639,488
	11 mos.	6,347	183,605,616	15,109,681	213,281,370	28,215,816	38,494,780	3,805,158	74,662,306	153,681,420	72.1	59,599,950	29,207,856	26,639,689	18,920,516
Alabama Great Southern	Nov.	316	1,531,119	33,968	1,701,333	166,714	337,243	30,702	527,908	1,120,050	65.8	581,283	327,195	274,175	77,823
	11 mos.	316	13,924,385	938,775	16,112,963	2,163,433	3,285,736	307,851	5,430,012	11,804,250	73.3	4,308,713	2,601,858	1,911,467	1,356,970
Cinn., New Orleans & Texas Pacific	Nov.	337	3,162,225	123,206	3,459,618	358,517	641,132	53,606	897,159	2,070,826	59.9	1,388,792	732,830	776,582	428,874
	11 mos.	337	33,467,056	1,883,271	37,097,691	4,335,965	6,490,634	646,431	10,259,006	22,938,647	61.8	14,159,044	7,248,888	7,399,027	5,657,466
Georgia Southern & Florida	Nov.	397	552,077	42,944	660,116	121,316	49,776	7,240	184,673	380,296	57.6	279,820	84,015	83,432	29,038
	11 mos.	397	5,591,859	777,259	6,956,630	1,498,380	628,189	77,823	2,190,793	4,594,825	66.0	2,361,805	581,319	563,832	433,395
New Orleans & Northeastern	Nov.	204	1,086,128	11,759	1,143,180	119,110	104,900	19,311	250,451	532,995	46.6	610,185	299,020	264,260	168,783
	11 mos.	204	9,981,118	555,379	11,058,684	1,547,074	1,079,352	183,044	2,532,043	5,770,726	52.2	5,287,958	2,539,815	2,209,462	1,667,328
Southern Pacific	Nov.	8,144	34,890,778	3,384,282	40,949,129	4,444,648	7,578,496	686,918	14,982,182	29,444,358	71.9	11,504,771	5,573,547	5,061,683	3,154,963
	11 mos.	8,143	362,991,262	35,254,237	430,414,458	47,592,227	83,092,193	7,778,498	155,185,480	313,429,452	72.8	116,985,006	57,887,005	43,991,271	26,927,104
Texas & New Orleans	Nov.	4,316	10,212,257	672,467	11,643,344	1,779,574	1,646,859	232,356	4,186,445	8,344,313	71.7	3,299,031	1,297,624	1,278,942	1,025,277
	11 mos.	4,316	100,450,744	7,334,192	116,568,835	18,394,688	16,696,920	2,416,097	41,945,619	84,605,474	72.6	31,963,361	13,429,702	11,602,806	11,494,788
Spokane International	Nov.	152	157,738	1,460	179,939	51,272	17,724	4,590	47,779	132,372	73.6	47,567	9,488	24,930	—5,017
	11 mos.	152	1,966,197	11,349	2,138,272	460,369	203,589	49,442	567,727	1,383,141	64.7	755,131	187,965	399,475	4,544
Spokane, Portland & Seattle	Nov.	931	2,187,194	79,640	2,373,868	568,333	274,769	20,952	684,292	1,623,895	68.4	749,973	193,397	485,696	577,972
	11 mos.	942	22,349,623	869,948	24,460,154	4,871,398	2,914,981	232,991	7,636,769	16,514,715	67.5	7,945,439	1,845,950	5,328,271	3,032,070
Tennessee Central	Nov.	286	354,816	14,656	409,747	96,067	80,614	10,905	138,321	344,356	84.0	65,391	24,254	7,688	50,268
	11 mos.	286	4,016,184	66,577	4,333,259	827,365	661,806	112,055	1,440,976	3,237,138	74.7	1,096,121	271,272	478,626	342,158
Texas & Northern	Nov.	8	91,864	.....	105,257	5,420	7,950	1,066	25,613	43,697	41.5	61,560	22,075	27,809	17,958
	11 mos.	8	984,706	.....	1,116,727	34,139	63,763	8,809	211,041	360,331	32.3	756,396	266,431	356,304	209,807
Texas & Pacific	Nov.	1,846	5,540,941	348,407	6,393,462	769,909	945,506	166,269	2,009,795	4,168,523	65.2	2,224,939	954,621	1,025,659	57 ,409
	11 mos.	1,846	53,944,209	4,270,780	64,406,436	8,669,965	9,661,272	1,725,894	21,236,460	44,367,616	68.9	20,038,820	7,939,638	8,808,495	5,894,867
Texas Mexican	Nov.	162	247,556	.....	278,402	76,691	20,693	6,455	45,580	165,678	59.5	112,724	15,644	76,691	62,144
	11 mos.	162	2,782,089	.....	3,097,351	619,852	242,130	69,632	616,463	1,725,319	55.7	1,372,032	548,720	563,444	442,079
Toledo, Peoria & Western	Nov.	239	494,127	9	502,011	39,092	33,057	44,054	112,943	251,090	50.0	250,921	105,150	105,412	51,603
	11 mos.	239	5,054,576	136	5,142,859	726,865	347,577	405,893	1,163,495	2,904,226	56.5	2,238,633	879,509	939,217	619,631
Union Pacific	Nov.	9,720	35,914,220	2,375,708	41,188,534	4,825,738	7,452,902	777,846	13,906,893	28,787,386	69.9	12,401,148	6,901,970	3,965,624	3,618,701
	11 mos.	9,720	353,469,760	30,198,718	413,855,288	55,949,826	72,436,725	8,714,742	140,148,846	297,769,460	72.0	116,085,828	62,483,749	37,019,541	16,134,685
Utah	Nov.	110	157,417	.....	157,930	8,704	59,448	691	68,752	144,656	91.6	13,274	11,589	12,425	66,188
	11 mos.	110	1,325,972	.....	1,330,435	190,118	538,580	7,731	592,827	1,409,372	105.9	—78,937	127,792	—83,832	—162,203
Virginian	Nov.	643	2,874,214	3,254	2,995,128	406,769	671,073	36,949	700,381	1,891,000	63.1	1,104,128	708,000	646,103	662,107
	11 mos.	651	29,278,892	28,949	29,969,314	3,967,880	6,295,930	408,753	6,798,878	18,308,463	61.1	11,660,851	6,503,100	7,866,628	5,461,001
Wabash	Nov.	2,393	8,250,431	396,036	9,572,106	1,045,248	1,108,939	259,296	3,602,328	6,351,963	66.4	3,220,143	1,439,823	1,282,538	680,006
	11 mos.	2,393	84,043,332	4,291,420	95,311,206	12,663,792	12,229,153	2,806,558	38,114,948	69,277,099	72.7	26,034,107	10,987,391	10,145,132	6,555,484
Ann Arbor	Nov.	294	742,933	2,016	767,800	78,893	94,264	23,804	332,486	546,244	71.1	221,556	94,106	97,453	38,296
	11 mos.	294	8,349,971	18,952	8,600,608	928,688	1,063,363	255,641	3,667,822	6,110,991	71.1	2,489,617	887,061	1,272,215	403,203
Western Maryland	Nov.	837	3,622,174	8,350	3,812,049	506,567	719,685	72,151	1,131,596	2,541,472	66.7	1,270,577	808,000	692,262	645,043
	11 mos.	837	36,233,847	98,879	37,829,495	4,963,689	7,443,496	799,823	11,364,054	26,033,584	68.8	11,795,911	6,668,000	7,320,878	6,099,240
Western Pacific	Nov.	1,195	4,384,258	160,370	4,636,277	555,762	620,832	143,240	1,135,375	2,640,194	56.9	1,996,083	823,777	1,039,582	637,331
	11 mos.	1,195	40,938,027	2,373,676	44,303,709	5,915,211	6,465,882	1,583,874	12,580,389	28,513,531	64.4	15,790,178	6,720,973	8,205,180	3,873,598
Wisconsin Central	Nov.	1,051	2,351,473	27,267	2,523,175	265,870	358,422	59,963	944,789	1,720,022	68.2	803,153	248,363	399,642	225,217
	11 mos.	1,051	25,120,271	398,090	27,254,371	3,812,637	3,804,103	651,685	10,157,886	19,392,420	71.2	7,861,951	2,676,131	3,503,963	2,075,175

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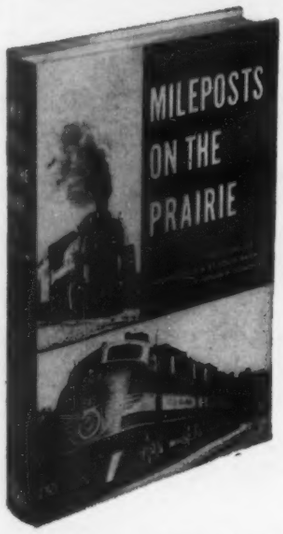
MILEPOSTS ON THE PRAIRIE

By Frank P. Donovan, Jr.



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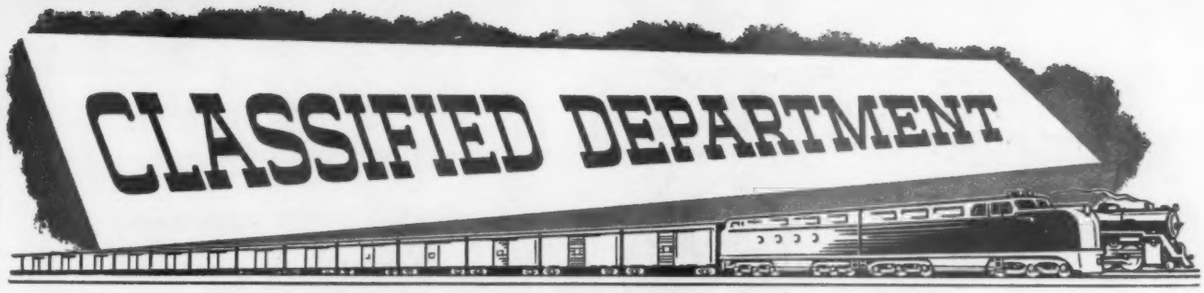

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